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ABSTRACT

This curriculum guide offers principles, guidelines, and suggested activities for teaching art to young children with a wide variety of disabilities. An introductory chapter notes the benefits of the arts, adaptations for various disabilities, the curriculum's rationale, and integration of the arts across learning domains. Chapter 2 examines how children learn through play and art, and applies a cycle of learning to the visual arts, music and movement, and dramatic play. Chapter 3 considers the adult role in art education. Chapter 4 gives specific suggestions for structuring the art environment, including time, space, materials, and activities. Chapters 5 through 7 offer sample activities for the areas of visual arts, music and movement, and dramatic play. Chapter 8 addresses ways to integrate the arts into early childhood experiences, while chapter 9 explains how to adapt materials. Chapter 10 is on the value of family participation and chapter 11 offers suggestions for assessment. Chapter 12 lists resources, both expressive art resources and technology resources. Appended are a glossary and instructions for making a "music mat." (Contains 59 references and an index.) (DB)

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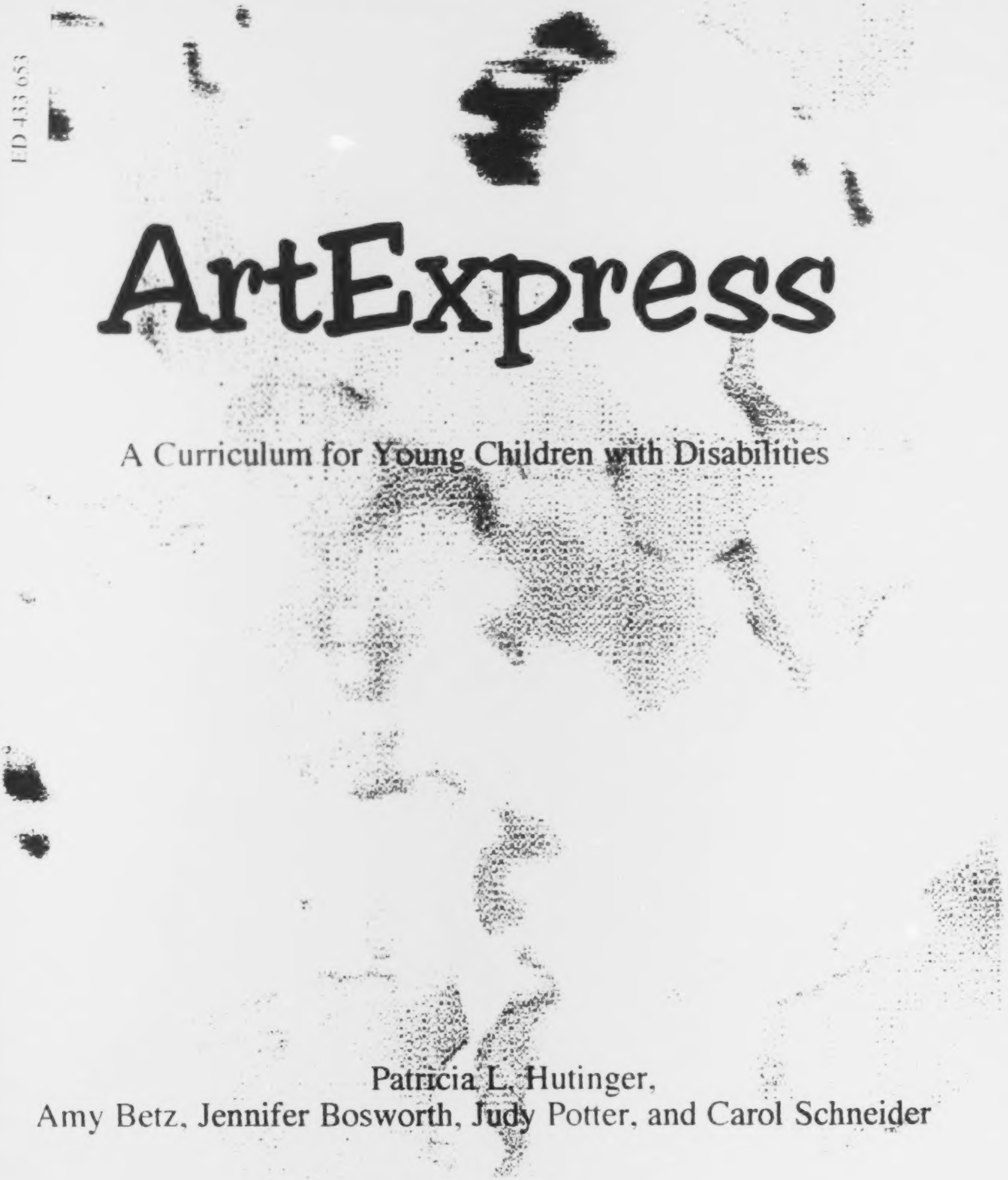

ArtExpress

A Curriculum for Young Children with Disabilities

Patricia L. Hutinger,
Amy Betz, Jennifer Bosworth, Judy Potter, and Carol Schneider

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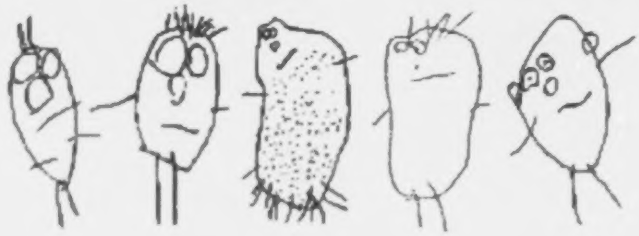

ArtExpress

by Patricia L. Hutinger,
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and Carol Schneider

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of Terry Carley, Pamela Terry Godt, and Joyce Johanson

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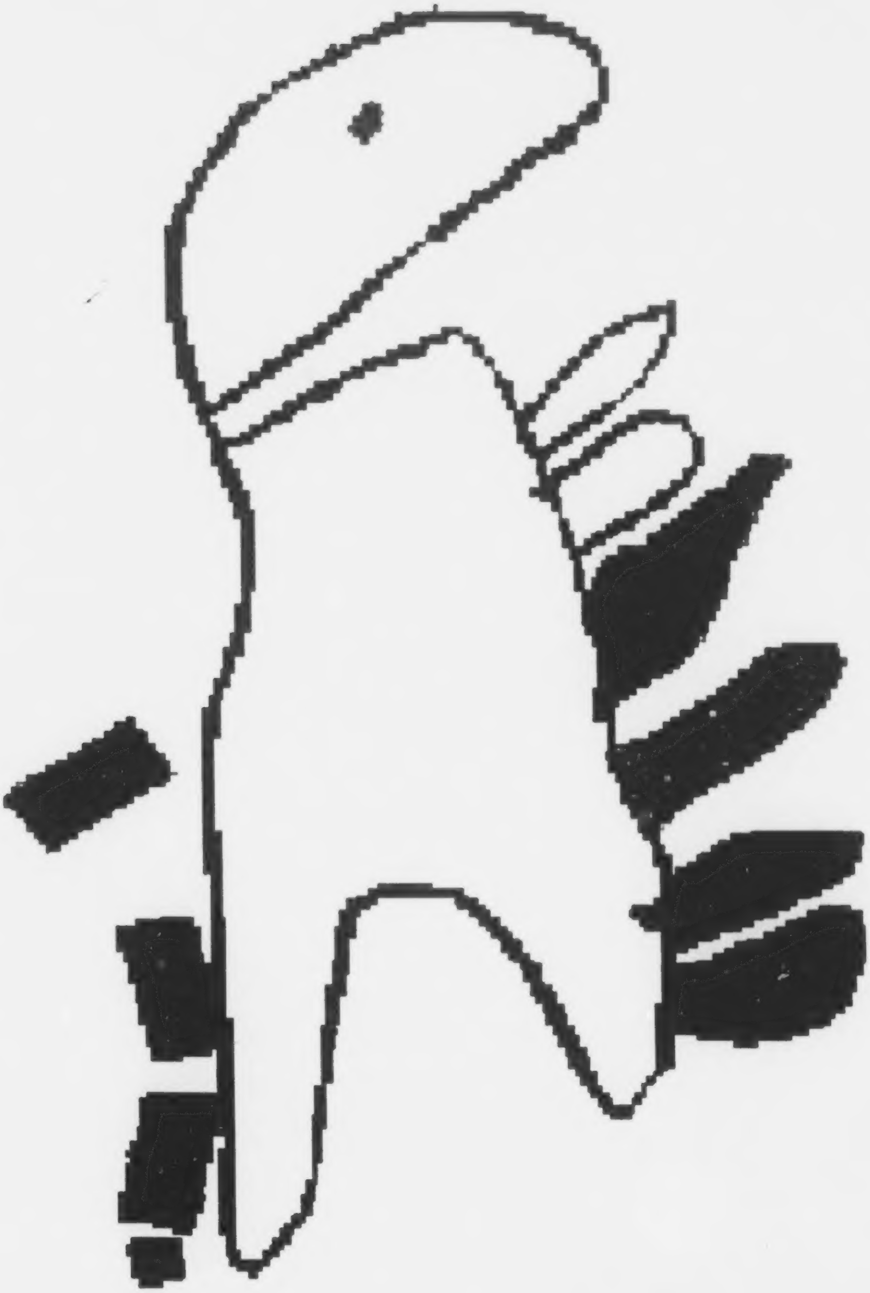


Chapter One
Overview of ArtExpress and Young Children

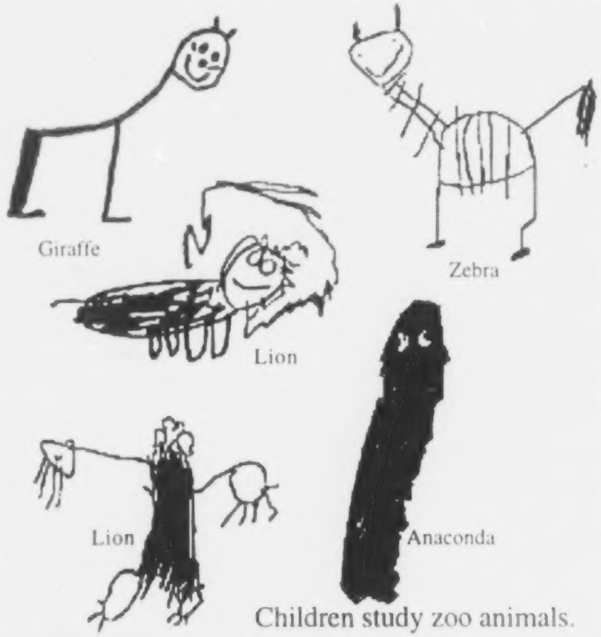
Overview of *ArtExpress* and Young Children

To know is nothing; to imagine is everything.
The art of teaching is the art of awakening the natural curiosity of young minds.
Anatol France

Art, music, dance, and dramatics (the expressive arts) not only provide important content, but they have also been shown to serve as a vehicle for serious learning for children of all ages and abilities. The expressive arts offer important opportunities for expression, problem solving, and communication. They contribute to healthy development and learning. Children exhibit cognitive changes due to participation in expressive arts activities. Moreover, the expressive arts aid both written and spoken communication and enhance social development. The arts are far more than just something for children to do to "keep busy," or something to keep children quiet and occupied while adults do other things, or a way for children to learn to follow directions.

Benefits of the Arts

Through the arts, children actively participate in their own learning. Child initiation and child direction are key elements to successful experiences in the arts, and they form the foundation of *ArtExpress*. When children have choices of materials and ample time to complete their activities, they feel as if they have control of the direction of their play. Children can then construct their own realities, freely communicate their feelings and ideas, and make sense of and give meaning to their world. This sense of control is especially important for young children with disabilities who often do not feel in control of their bodies or environments because of their disabling conditions. Through active participation in the expressive arts, children make great strides in the processes of understanding and creating symbols, critical to communication and literacy development.



Children study zoo animals.

Children gain a broader and deeper understanding of human culture and the significance of their own imaginations through artistic expression and appreciation. Like the adults around them, children attach certain kinds of form, movements, lines, and sounds with meaning. They begin to use the movements of play, the lines of drawing, and the sounds of language and music to represent people, objects, and events that comprise their world (Dyson, 1990).

The arts can do so much for so little! With a few markers, crayons, and paper, children make initial marks or scribbles which begin the trek from simple scribbles to representational drawing, to emerging letters, and to an eventual understanding of the symbols comprising language. With some clay, homemade play dough, or a variety of found materials and glue, children create sculptures, discover relationships between objects, and explore differences in materials, sizes, shapes, and forms. The physical activity involved in putting marks on paper, rolling clay or play dough, squeezing glue from a bottle, and placing objects on paper to form collages is one way the expressive arts contribute to the development of fine and gross motor skills. Moving a scarf, first in a large circle using the whole arm and then in a small circle using the wrist, also illustrates how the expressive arts develop motor skills. Making and using props in a dramatic play setting demonstrates how children's thinking moves from concrete to abstract forms of thinking.

Communication and social development are primary goals in any early childhood classroom and are enhanced, encouraged, and developed through the expressive arts. Children often converse while they work. They discuss their drawings and sculptures with each other, an adult, or even with themselves. Children learn to share supplies, table or easel space and to make compromises. They create stories about the marks, images, and sculptures they make. With a few records or tapes, children listen to, sing along with, or tap out a rhythm to music, by themselves or together as a group. Add a few musical instruments, purchased or homemade, such as an old but in-tune piano, and children learn about sounds and how sounds work together to create both beautiful music and lots of noise! During dramatic play activities, children try out new roles and often have to negotiate with one another for play to continue.

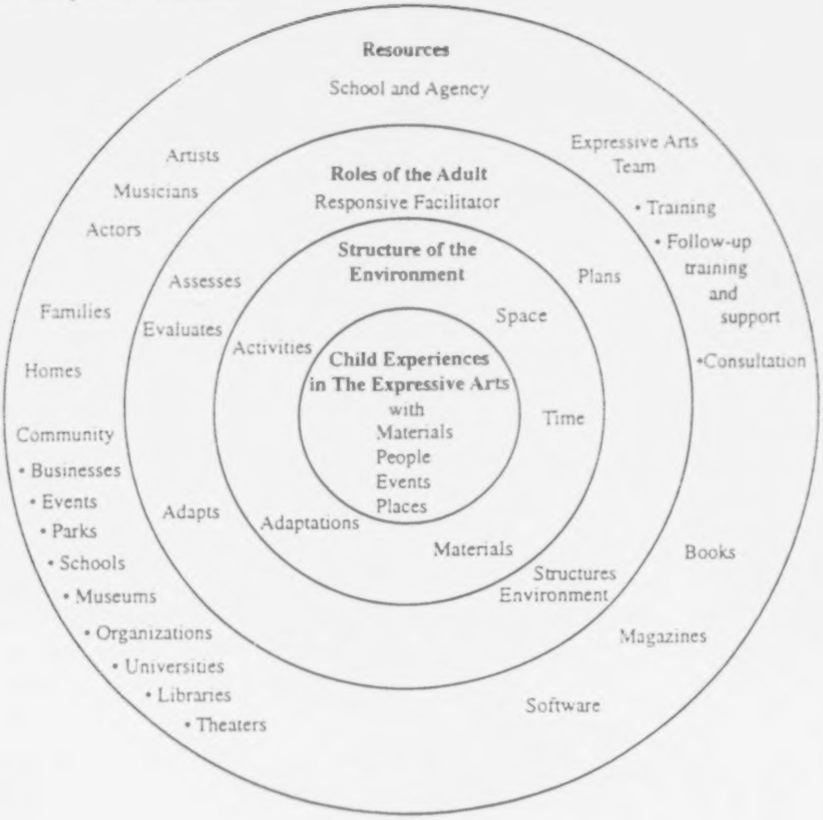
Albert Einstein said, "Imagination is more important than knowledge." With simple, inexpensive props brought from home, donated to the classroom, or discovered in thrift shops, children's imaginations and dramatic play soar. They go shopping, play house, become princesses, or fight dragons. As they pretend, children share their ideas and experiences, their perceptions of the world, and its reality and meaning to them.

Adaptations

The arts present benefits as well as challenges to children whose physical disabilities prevent them from interacting with their environment. Both low-tech and high-tech options can help all children participate in the arts. Low-tech options, such as foam grippers for markers or extensions for paint brushes, give children with physical limitations more autonomy while participating in visual art activities. Velcro fasteners and other simple adaptations make it possible for all children to experience creative play activities, such as creating sculpture, playing with puppets, and participating in music. Switches to activate recorded music, voices, and sounds all assist in making participation and inclusion possible. Many teachers are unaware of how to adapt activities for children in their classroom. For example, the Physical Therapist had been using some activities in isolation. One activity was to have a child reach for and pull scarves. Through the Expressive Arts Project, the therapist realized that music could be added to the therapy activity to make it more meaningful to the child. As more schools provide opportunities for inclusion, *all* staff need to learn how to adapt materials and activities to best meet the needs of the children they serve. Chapter 9 shows how to adapt devices for children with disabilities. Chapter 3 provides teaching strategies to make the arts successful experiences for young children.

Computers, software programs, and adaptive peripherals are high-tech options to equalize play for all children. These allow participation, encourage independence, and enhance self-esteem. The program *ArtSpace* provides children with an opportunity to visit an art museum where they can see works of the masters as well as children. They can also recreate art work drawn by children in "The Studio." Software that brings the world to them is invaluable for children who live in isolated areas far from a museum or children who do not travel well. With the use of a switch or a touch tablet, such as a TouchWindow, Key Largo, or IntelliKeys, a child who cannot use his hands to hold a marker or paint brush can successfully make marks and create a picture that can be printed and displayed with the others in the classroom. The pace may be slower and the teacher may remain in a leadership role for a longer period of time, but with the availability of high- and low-tech adaptations, participation of children with limited abilities in the expressive arts is not only possible, but practical.

Figure 1. *ArtExpress* Model


Resources
School and Agency
Artists
Musicians
Actors
Families
Homes
Community
• Businesses
• Events
• Parks
• Schools
• Museums
• Organizations
• Universities
• Libraries
• Theaters
Expressive Arts Team
• Training
• Follow-up training and support
•Consultation
Books
Magazines
Software
Roles of the Adult
Responsive Facilitator
Assesses
Evaluates
Adapts
Plans
Structures Environment
Structure of the Environment
Activities
Space
Time
Materials
Adaptations
Child Experiences in The Expressive Arts
with
Materials
People
Events
Places

Rationale

ArtExpress is based on a set of assumptions derived from *Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children 3 through 8* (National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education, 1991). First, developmentally appropriate art materials and activities for young children are essential. Second, young children, with or without disabilities, need the freedom to develop their own symbols and ideas rather than adult-prescribed symbols and ideas. Third, young children need access to raw materials which can be used in many different ways. Fourth, young children need ample time to participate in art processes. Using these four steps, children will be able to master techniques in the expressive arts. Finally, as Schirrmacher (1993) emphasizes, art activities and adaptive materials can be integrated into a variety of other content areas.

While developing *ArtExpress*, Expressive Arts Project staff worked with and collected data from teachers in 16 early childhood classrooms, over 370 children with mild, moderate, and multiple disabilities, and their families. Activities and materials were field-tested, evaluated, revised, and adapted. Children, families, staff, and a wide range of resources contributed to children's experiences in the expressive arts. A visual representation of *ArtExpress* is shown in Figure 1. The center element, "Children's Experiences in the Expressive Arts," provides a set of activities organized into a curriculum designed to incorporate experiences in the arts into naturally occurring, on-going, daily events. The term "curriculum" is defined as a set of guidelines and suggested experiences, not in the narrow academic sense sometimes used in elementary and secondary schools (Hutinger, 1994).

The second element is "Structure of the Environment," which focuses primarily on physical elements, such as appropriate organization of space, time, schedule, and materials. Also included are adaptations of materials and activities that can be used differently by different children, depending upon specific needs and developmental levels.

The third element is titled "Roles of the Adult," whether that be a teacher, program assistant, support staff, or family members. This element includes the roles of responding, facilitating, planning, structuring activities, adapting materials and activities, and evaluating. Adults are responsible for the "Structure of the Environment" element.

The fourth element, "Resources," includes the surrounding supports that make *ArtExpress* viable: the resources of the sponsoring school or agency, families, homes, communities (museums, theaters, libraries, artists, musicians, actors), books, magazines, and software.

The Arts across Learning Domains

Learning in all domains—cognition, communication, social and emotional, and physical—is integrated in *ArtExpress*. Since young children cannot separate knowledge from emotions, they should not be presented with separate content. Children have basic drives: to be physically active, to satisfy curiosity, to manipulate and construct, to share and communicate, to express themselves both aesthetically and creatively, and to play. *ArtExpress* provides the means to satisfy children's drives and the flexibility to include all children.

Cognition

Visual art is a highly symbolic activity. Producing art requires that children think of an experience, idea, or feeling and then create symbols to express it. Being able to think about something not present and then express it visually is a major cognitive accomplishment for young children (Golomb, 1992). As children create art, they must organize their thoughts and actions into patterns and symbols. As children create art, they reason, invent, create, and solve problems. Children also develop perceptual sensitivity to their world, perceive likenesses, differences, shapes, sizes, textures, and colors as they create art. When the product is complete, it communicates to others, just as oral language does. Children's thoughts, feelings, and experiences are now shared visually with others.

Eisner (1979) identified nine cognitive changes that take place through painting activities. Many of these changes center around symbol development and also take place in other expressive arts activities. Children learn about patterning and sequencing through the arts. Beats and rhythms have patterns that children can clap or tap. Sequencing, an important literacy skill, is learned through hands-on activities. For example, a child can discover that in order to make play dough, certain things must happen in a certain order. Dry ingredients must be measured and mixed. Measured wet ingredients are added to the dry ingredients and mixed. A transformation takes place. The dough must then be kneaded to get the proper consistency. The natural order of events leads to a knowledge of sequences for children to observe and point out to others.

Children with cognitive disabilities feel successful in the arts when activities are appropriate for their developmental age. Some young children progress through developmental stages more slowly than their same-age peers. They may require more time and adult support to be successful using materials. Repeat the same activity often. A flexible schedule, free choice activity times, and emphasis on concrete learning will encourage 1) experimenting with art tools and materials, 2) observing peers working on art projects, and 3) developing symbols to communicate. Visual art activities also foster making cognitive connections between the concrete and the abstract.

> *Matthew is a child with mental retardation. He was in an Early Childhood Special Education class for two years during the Expressive Arts Project. Matthew's speech was limited. Often what he said was unintelligible. He was*

> *able to say, "Hey!" clearly—this was how he frequently got someone's attention. Throughout the two year period, printing, using various type of materials (vegetables, fruits, cookie cutters), was a recurring activity. Because this activity was repeated frequently, Matthew was able to progress from spreading paint with the print tool to making stamps with the tool. One day, the colors were a vivid purple and green. As Matthew was stamping, he shouted, "Hey! Barney!" He also pointed to the purple paint. He pointed to the green paint and said, "Babop!" The teachers agreed excitedly, "Yes, Matthew, we have Barney purple and Baby Bop green!" Only through repeated activity was Matthew able to make this connection between color and the television dinosaur.*

Communication

Young children with communication disabilities benefit from an environment rich in all the languages of children and with many opportunities to communicate. Communication opportunities through the visual arts are many. The art itself is a form of communicating. The teacher can model, facilitate, and provide opportunities for the child to communicate during the process of drawing, painting, and three-dimensional projects. Teachers can also encourage children to communicate about the art product when finished.

> *Ian, a child with mental retardation and severe apraxia, had extreme speech limitations. He received speech therapy and sign language was also used. During art activities, the teachers frequently signed "more" and "done." During collage activities, the sign for "glue" was used. Oral language was used along with the signing. When working with collage materials, Ian would frequently sign "more" to get more materials. Ian would also sign "done" as he completed an art activity. He also tried to say these two words.*

Social and Emotional

Expressive arts activities increase attention spans, social skills, and self-awareness. By painting a picture, building a castle, or singing a favorite song, children realize they are capable of doing things all on their own. They contribute to their environment.

Through expressive arts activities children learn how to solve problems with peers, negotiate, and share. They learn to experiment with different roles, such as parent, teacher, superhero, or monster in the dramatic play area. As they experiment, children learn about some of the social rules and conventions of their environment.

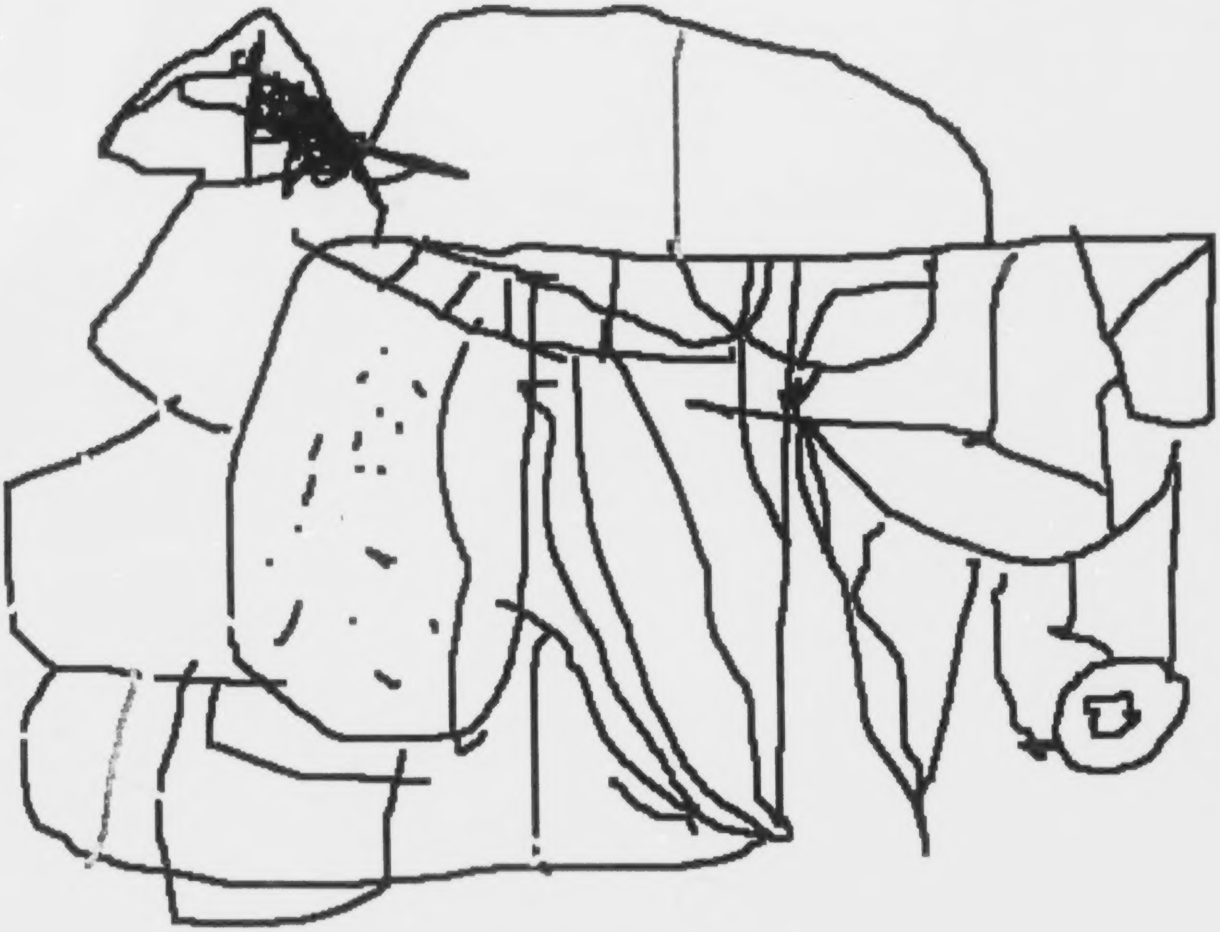
Expressive arts activities provide children with a release from the pressures in their lives. They can feel comfortable with drawing or building as a release for a frustration that might have been difficult to communicate with language.

> *Elliot, a 5-year old in an Early Childhood Special Education classroom, was receiving counseling for behavior and emotional problems. He also became very concerned about who was his friend due to some stress in the family. He began to think of himself as a "bad boy that no one wanted" and demonstrated more frequent displays of inappropriate behavior with his peers. Following several of the incidents of inappropriate behavior, the teacher asked Elliot to sit down and draw a picture of how he felt at the time. These pictures frequently showed tears and frustration. When Elliot was asked to describe the pictures, he talked about how angry he was. Being able to draw his feelings helped Elliot talk about them and work through them.*

Motor

Movement activities help children become aware of their bodies and how they can move. Whole body movements can occur as can small movements of just a finger or an eye. Streamers or scarves can be used to illustrate the movement of a sound or an animal. Children can use their imaginations to decide how they think something would move. Would it be a graceful quiet movement or a lumbering, noisy movement?

> *The Music Mat, a large switch-activated music maker with a keyboard, was taken to the classroom. Children explored how they could move across the mat. They began by walking across the Music Mat. One child rolled her walker across the mat. Children then skipped and ran across the mat. As safety was beginning to become a factor, the adult monitoring the area asked, "How else can you move?" Some of the children crawled and one said she was a snake, so she "slithered" across the mat.*



Chapter Two
Children and The Arts

Children Learn through Play

Imaginative play is one of the purest forms of symbolic thought available to the young child.
Jean Piaget

Young children are active learners; they learn through play. The art area is a place to play. A piece of paper at the art table or easel is a playground. Crayons, markers, and paints become play tools. Scraps for collage and construction, play dough, and clay also serve as creative tools for play and self-expression.

Dramatic play can spontaneously be integrated with visual arts. Children imagine situations as they draw and create. Ricky (age five, ADD), while drawing with red and blue pencils said, *This is my castle. The red door is where I go in.* Children make props to use in their imaginative play. Ian, (age four, TMH and apraxia), spent 20 minutes problem solving while constructing his crown. He then put it on and went to play with his friends building in the block area. As children draw or paint, they use their imaginations. Jeremy (age four, LD), pushed his crayon as he crawled around the large piece of paper when it was placed on the floor. *My crayon is driving me and Mommy to the store,* he said.

Bredekamp and Rosegrant (1992b) described the developmental cycle of learning. The learning cycle begins with awareness that leads to exploration, inquiry, and utilization. Children need to play with paint, crayons, markers, chalks, pencils, glues, paper, play dough, cardboard, collage, and scrap materials. Through play children discover how materials feel, smell, look, and sound, what can be done with them, and how far they can be controlled. Children need the widest variety of materials possible to enable them to examine the values and discover the properties of these materials. Opportunities to try materials in new ways, including finger, hand, and foot painting, paper tearing, paint flicking, and blow painting, increases discovery and understanding.

Children need opportunities to develop their own marks and symbols while drawing, painting, and making three-dimensional projects as their own imagination directs them. Some children have not been encouraged to do so or have not been given the opportunity and time. Many children and adults are taught to think there is only one way to use visual art tools and materials. Although the child needs to be shown skills and the safe use of tools, adults should value any willingness by the child to improvise and experiment. Many young children show a preference and aptitude for the expressive arts. These spatial, musical, and kinesthetic intelligences, as identified by Howard Gardner (1993), need to be nurtured and encouraged.

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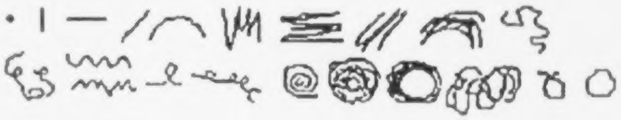
Children's Art Develops through Play

A body of literature has developed surrounding the developmental stages, universal patterns and symbols that children typically exhibit when they draw, paint (Arnheim, 1974; Di Leo, 1980; Jalongo, 1992; Jalongo & Stamp, 1997; Kellogg, 1970; Lowenfeld & Brittain, 1975; Matthews, 1984; Schirrmacher, 1993), construct (Golomb, 1992; Hirsch, 1984), and write (Barclay, 1990; Dyson, 1986; Jalongo, 1992; Maehr, 1989). Developmental stages in basic scribbles, images, forms, and emergent writing follow.

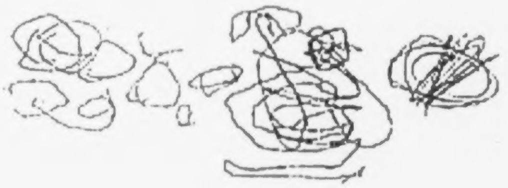
Visual Art

Scribbling: These very sensory and primitive marks are the basis for all future art.

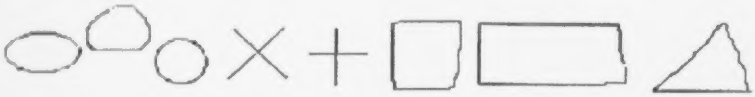


Placement: Scribbles begin to show placement in relationship to the edges of the paper, as children attend to the paper as a unit apart from the rest of the environment.

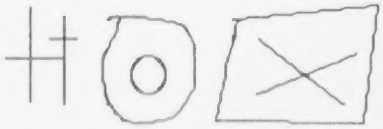
Emergent Shapes: Children demonstrate more controlled scribbles with increased muscle control by producing, probably accidentally, primitive shapes.



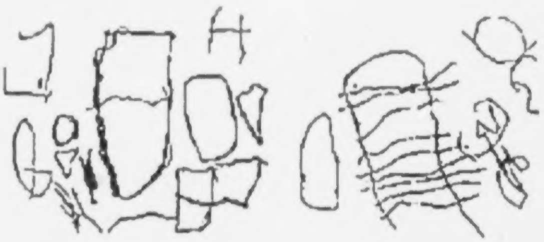
Diagrams: As children develop visual memory of marks they like to make, a visual vocabulary of diagrams emerges.



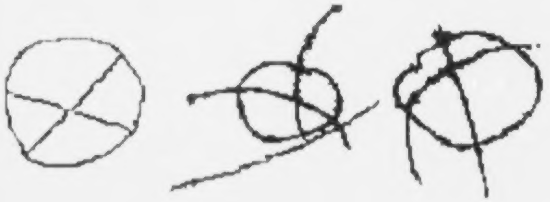
Combining Basic Shapes: Children use their visual memory to develop a logical system of line formation. They elaborate on their previous work. The ability to reproduce visual representations from memory is a prerequisite to reading and writing.



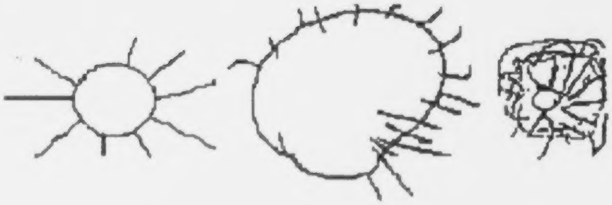
Aggregates: Children begin to emerge as artists, using abstract combinations from a large repertoire of visual language and ideas.



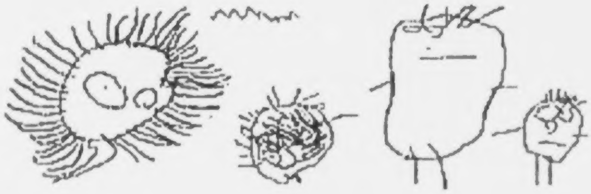
Mandala: Developmentally, children are now able to produce form; therefore, this universal symbol is a key part in the sequence that leads from abstracts to pictorials.



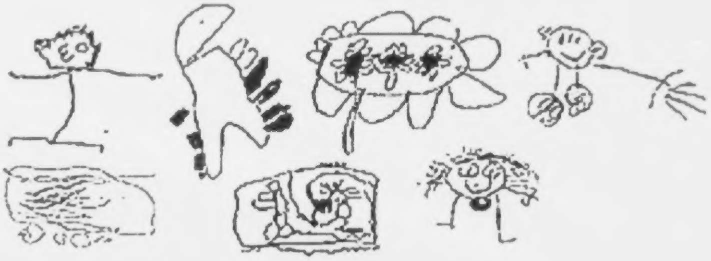
Sun: Children continue to bridge the gap to pictorials. In this stage, children may also produce radials (lines extending from a point).



Sun Humans: Interior markings give the sun a human-like appearance as the scribbles progress to logical shapes.



Humans and Pictorials: Children are able to represent their visual impressions of the world through their drawings.

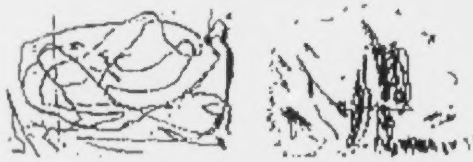


An abbreviated and generalized version of drawing development is documented by Kellogg (1970). Children will spend a much longer time exploring, investigating, and playing with shapes, forms, and combinations of diagrams before they are interested in creating recognizable symbols to communicate an idea or feeling. Not all children will follow this explicit development. Some children will place marks inside circular forms and announce that this is mommy, daddy, or some other person important to them. Arnheim (1974) says this is the beginning of purposefully creating a symbol or gestalt.

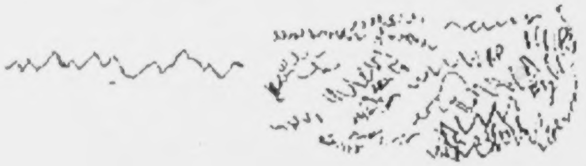
Emergent Writing

Emergent writing also develops naturally through play and often occurs first in drawings or paintings. Adults can support children's learning through play by providing time, space, and opportunities to play with drawing and writing materials. Some children consider their drawings to be actual writing (Maehr, 1989). If asked to 'read' their text, children will respond with a clear message or story. Older children recognize that drawing is an illustrative form, but still continue to use it as writing. The importance of children's awareness of environmental print and observing adults writing is well documented.

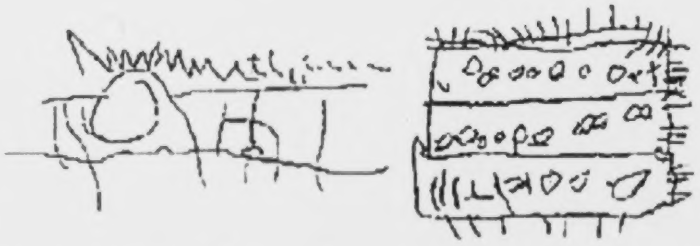
Scribbling: Emergent writing begins with the first explorations using a marking tool for a purpose other than drawing. Random marks or scribbles often occur on a page with drawings.



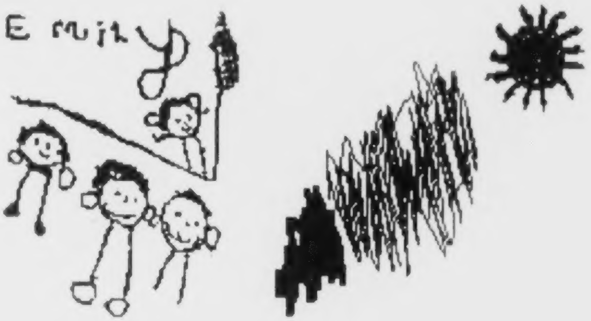
Mock Handwriting or Wavy Scribble: Children produce lines of wavy scribbles as they imitate adult cursive writing. Mock writing might occur during dramatic play as children "write" a grocery list.



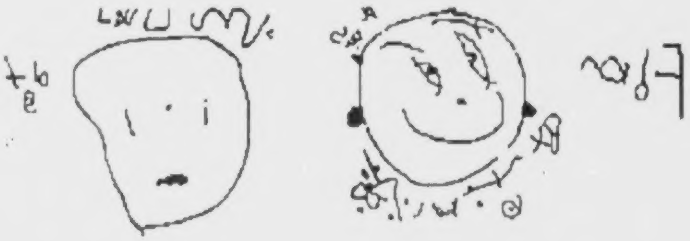
Mock Letters: Children attempt to form alphabetic representations, which also often appear in their drawings. Writing sometimes can be more vertical than horizontal. Children make letter-like shapes that resemble conventional letters. Research has shown that children's scribbles and emergent writing take on the characteristics of the printed language in their culture. Scribble writing in Arabic and Hebrew, for example, looks very different from scribbles in English. (Harste, Woodward, & Burke, 1984).



Conventional Letters: Children's first experiments with real letters are usually the letters from their name or a family member's name. They are not always conscious of making conventional letters. As children's mock letters become more and more conventional, real letters of the alphabet begin to appear. The first letters written are typically the letters in the child's name. Children often create "strings" of letters across a page and "read" them as sentences or a series of sentences. These may appear on drawings as the child's signature or description of the drawing. Children create a mental image of a particular letter they wish to write.



Invented Spelling: Many times words do not resemble either the look or the sound of the actual work attempted. Once children are fairly comfortable writing conventional letters, they begin to cluster letters together to make word forms. These words do not look or sound like "real" words. Children in this stage often ask, *What did I write?*



Approximated Spelling: Children apply sounds to letters to approximate the spellings of words. Beginning sounds are used first, ending sounds second. Middle sounds follow and short vowel sounds come last. Children attempt to spell words based on their growing awareness of letter sounds and on their memory of words they have seen repeatedly. These beginning words are usually written in capital letters or in a combination of capital and lower case letters, whichever are easiest to draw and are most frequently seen in the environment. Children move from spelling words by writing the beginning consonant letter, to writing both the beginning and final letters, to writing words with a beginning, middle, and final letter sound.

Conventional Spellings: Children's approximated spellings gradually become more and more conventional. Initially children may incorrectly copy words. Eventually words will be written correctly.

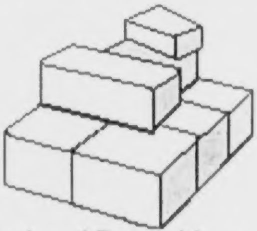
Block Construction

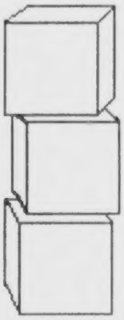
Church and Miller (1990) suggest that blocks inspire artistic expression while challenging children's imaginations and creative thinking abilities. As they create, children decide where blocks and accessories will go to create interesting designs, patterns, or structures. They begin to develop an aesthetic awareness as they combine blocks in appealing ways. Using their imagination to create roads, bridges, houses, and more, children develop spatial awareness. They become aware of same and different, big and small. Children learn about gravity and balance. They strengthen muscles and develop motor skills as they stack, grasp, lift, push, carry, balance, and reach. The following shows the developmental stages in block building.

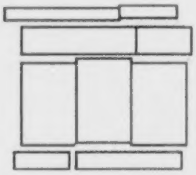
Stage 1: Blocks are carried around, not used for construction.

Stage 2: Building begins. Children make mostly rows, either horizontal or vertical. In this early building pattern, much repetition occurs.

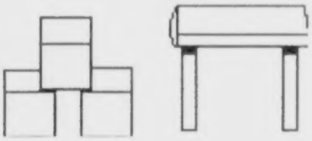
Horizontal Row


Stack and Row with no Interior Space

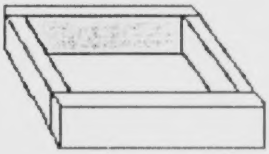

Vertical Stack

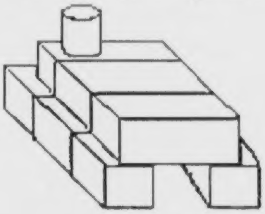

Stack and Row Combination

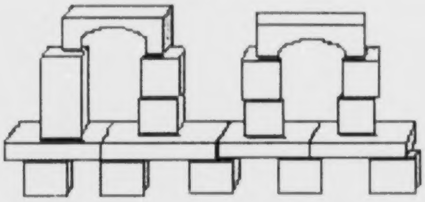
Stage 3: Bridging begins, two blocks with a space between them are connected by a third block.


Bridges

Stage 4: Enclosures occur when blocks are placed in such a way that they enclose space.


Flat Enclosure


Combination Enclosure


Combination of Many Forms

Stage 5: When skill with blocks is acquired, decorative patterns appear. Symmetry can be observed. Buildings, generally are not yet named.

Stage 6: Naming of structures for dramatic play begins. Before that, children may have also named their structures, but the names are not necessarily related to the function of the building.

Stage 7: Children's building often reproduce or symbolize actual structures they know. Long periods of dramatic play, with small props, are seen around block structures.

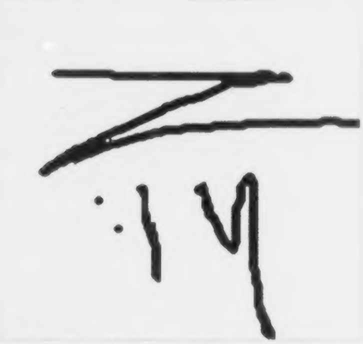
The Cycle of Learning

Learning is a process; a movement from the concrete, personalized understandings of very young children to the conventional understandings of society. The learning cycle reflects the process of constructing knowledge and the acquisition of new knowledge. Children will not go through the learning cycle at the same pace. The rate of progress vary from child to child, depending upon experiences, abilities, disabilities, and cognitive levels. The process continues as children grow. To learn something new, children must become aware of their environment, be able to explore and inquire, and then use what they have learned (Rosegrant & Cooper, 1986).

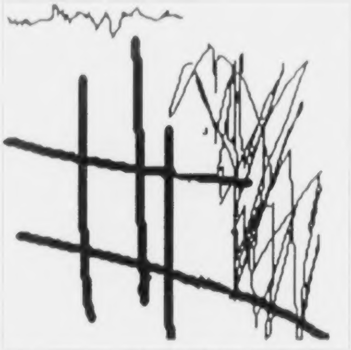
Visual Art

In art, the process occurs as children experience art tools and materials and use these to explore making marks with them. They investigate, test hypotheses, and utilize the tools and materials to develop symbols to communicate. The drawing cycle depicts movement from learning that is primarily exploratory to learning that is more goal directed. Movement changes from initial invention to standard conventions. The process is similar for learning in all domains.

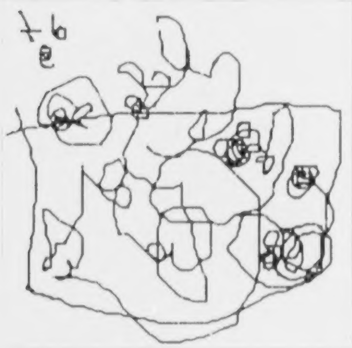
Drawing development begins with scribble marks and progresses from diagrams and combines to aggregates, mandalas, sun faces and figures, and finally representations of humans and other real world representation (Kellogg, 1970). The cycle of learning repeats itself as children's concepts and skills become more elaborate. Experiences at each level of the cycle actually create awareness of new things to learn.



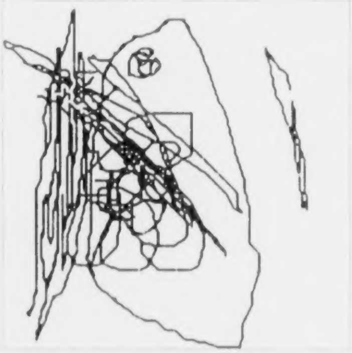
Straight lines going off the page, dots, curved lines



Zig zag lines, single lines crossing



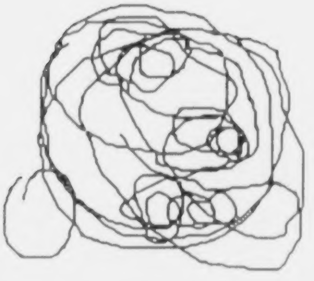
Roving, circular and enclosed lines, spiral lines, overlaid circles



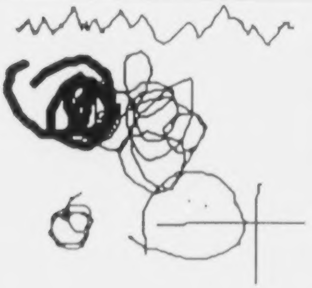
Multiple vertical lines, roving enclosed line, multiple line overlaid circle

Awareness

When children are given opportunities and time with drawing materials, they attend and acquire an interest. They may touch, taste, and smell the drawing tools. They may experience the sound that the tool makes as it makes a mark. They may manipulate the tools themselves, carrying them around or taking them in and out of their container. Children may make random marks, not always keeping their marks on the drawing surface. They learn that their actions with the marking tool causes the mark on the paper.

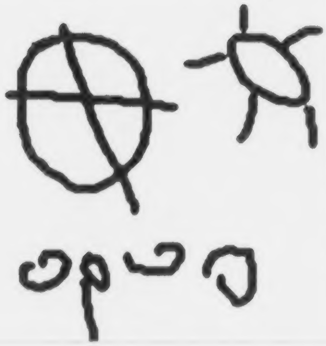


Emerging forms and diagrams

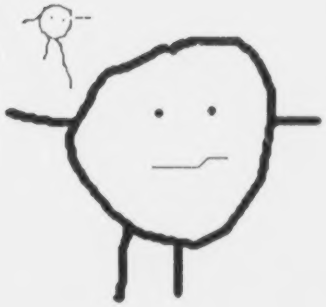


Mock writing, diagrams, combines, and aggregates

Exploration
Children explore as they develop greater control over their actions. Their marks become purposeful. They focus on experimenting, experiencing, and manipulating the tools and materials. They expand the number and variety of marks in their visual vocabulary. They collect information, figure out components, and construct their own understandings. Children's marks have personal meaning. Children may also notice print in their environment.

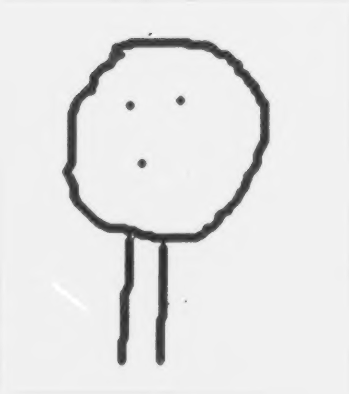


Mandala, sun, and mock letters

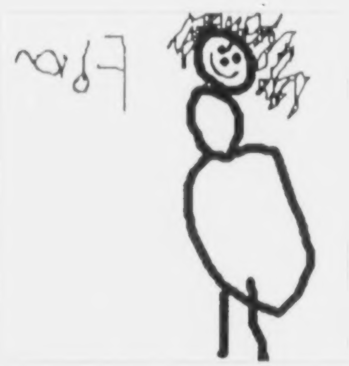


Sun humans

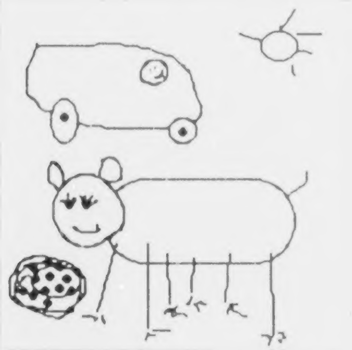
Inquiry
When children have had opportunities to socialize while drawing and time to explore a variety of art tools and materials, they will begin to compare their marks with those of others. *How'd you do that?*, is a question a child may ask. Through developing a personal repertoire of diagrams, combines, aggregates, and mandalas and then inquiring about how new marks can be made, children construct knowledge about how to communicate through diagrams that can be recognized by others. They begin to relate the new information to prior learning. Children may begin to create mock letters from diagrams.



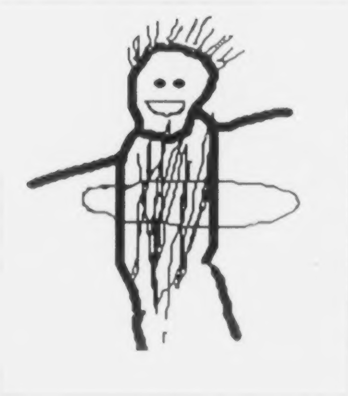
Armless human



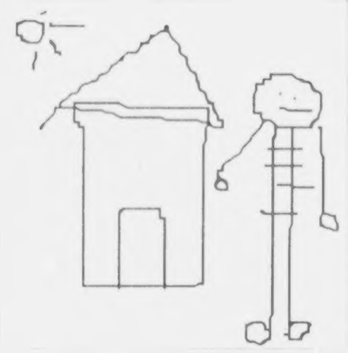
Emergent writing and human with head markings and varied torso



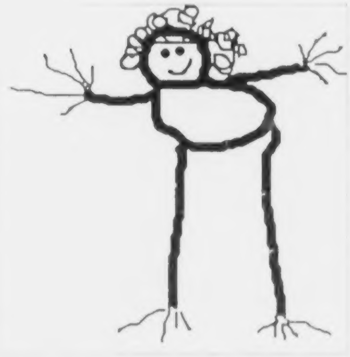
Pictorial and representational images



Human with head markings



Human, pictorial and representational images



Human with head markings, fingers and toes

Utilization
As children explore, and inquire with drawing tools and materials, they begin to use symbols of humans and other pictorials to communicate thoughts, ideas, and feelings. These symbols represent the child's knowledge and skill development. Children may also name their drawings. Learning becomes functional. Children apply their learning to new situations and ideas.

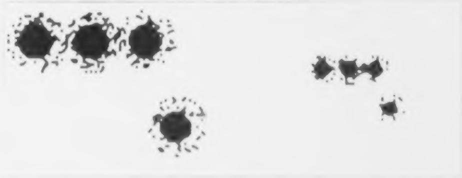
The Cycle is On-going
As children explore making marks, investigate, test, and use marks and symbols, they communicate by representing their knowledge through their drawings. They also recognize what they don't know and what they want to know. With this awareness, the learning cycle begins again.

Music and Movement

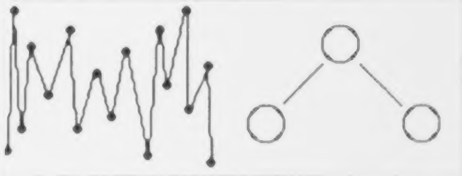
In music and movement, the learning process occurs as children notice sounds and movements. They use vocalizations and explore making other sounds. They may investigate new sound and movement materials or record and see voice patterns on a computer. Children may use music and movement materials to develop ways to communicate feelings and ideas. The process also includes exploring concepts like rhythm, tempo, and dynamics by changing the beat, adjusting the speed from fast to slow, or varying the volume from loud to soft and from high tones to low. The cycle of learning repeats itself as children's concepts and skills become more elaborate. Experience creates awareness of new things to learn at each level of the cycle.

Beat

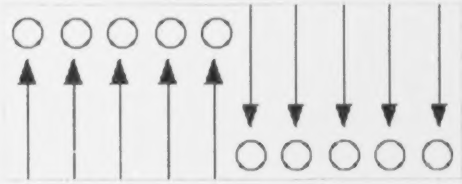
Dynamics or Loud-Soft



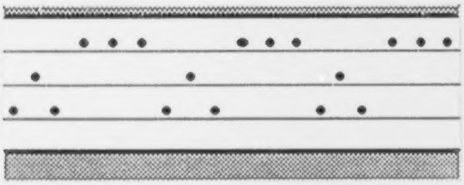
Tempo or Fast-Slow



Pitch or High-Low



Rhythm



Awareness

When given opportunities and time with music and materials, children listen and acquire an interest. When children are patted or rocked to a beat, they experience movement and touch. They may manipulate the music materials and carry them. Children may create random sounds with the materials. They discover that their actions with the music materials cause the sound.

Exploration

As children recognize that their actions cause sounds, they explore controlling those sounds. Children will begin to make purposeful movements or purposeful vocalizations to create sound. When music tools and materials are available for children to discover and explore, they can focus on observing, listening, creating, and constructing their own understandings. They can experiment and explore how to manipulate music tools and materials and expand the number and variety of sounds they can create.

Inquiry

Children begin to compare their vocalizations or musical sounds with those of others. They examine, investigate, generalize, and test their skills in creating musical sounds and relate musical sounds to prior learning. Through developing personal musical sounds, repeating those sounds, and then inquiring about how new musical sounds are made, children construct knowledge about how to communicate through movement and sound that can be recognized by others.

Utilization

Children begin to use actions and sounds to communicate thoughts, ideas, and feelings. These musical sounds and movements represent the child's knowledge and skill development to create or follow a beat with music tools and materials.

Dramatic Play

Three strategies to encourage creative thinking in young children are detailed by Williams and Kamii (1986). One is to use or create situations that are personally meaningful to the child. Another is to provide opportunities for them to make decisions. Yet another is to provide opportunities for them to exchange viewpoints with their peers.

Child-initiated activities should be central to dramatic play. Through dramatic play, young children test new roles, relationships, and rules. In the safe environment of dramatic play, children take risks and experiment with role playing. They may pick up a toy telephone and imitate adults they have seen holding a seemingly one-way conversation. They may pretend to cook, using pots and pans in the house area. Imitation is the child's way of trying on different roles experienced in everyday life. Young children begin learning about the world by creating their own environments with mommies and daddies, good versus bad, monsters, and favorite animals.

Children begin by imitating isolated activities. Their role playing over time becomes increasingly complex if they are in a nurturing environment with teachers who support learning through imaginative play. Children's dramatic play development progresses from solitary play with objects to observing or on-looker play; later it moves from parallel play to associative play and cooperative play (see Figure 2).

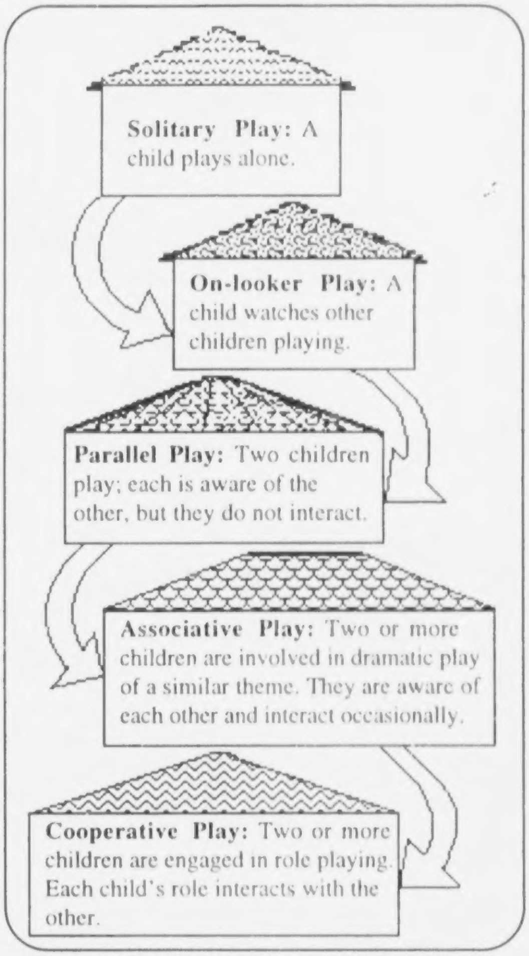

Solitary Play: A child plays alone.
On-looker Play: A child watches other children playing.
Parallel Play: Two children play; each is aware of the other, but they do not interact.
Associative Play: Two or more children are involved in dramatic play of a similar theme. They are aware of each other and interact occasionally.
Cooperative Play: Two or more children are engaged in role playing. Each child's role interacts with the other.

Figure 2. Developmental Sequence of Dramatic Play

Awareness

When children are given opportunities and time with dramatic play materials, they attend and acquire an interest. As they become acquainted with and experience their surroundings, they may touch, taste, carry around, or play with a special toy.

Exploration

As children begin to notice peers, they may begin to observe others at play. They also further explore materials, collect information, and discover new ways to use the materials. They are constructing their own understandings, applying their own rules, and creating personal meanings for the toys and materials.

Inquiry

As children explore play materials, they may begin to compare their ways of interacting with play materials with that of their peers. They examine, investigate, propose explanations, focus, generalize, and relate their play to prior learning. Through inquiry, children begin to construct knowledge about how to communicate and develop symbols through dramatic play activities.

Utilization

When children are provided with opportunities to play with dramatic play materials, they use the learning in many ways. Learning becomes functional. Children represent learning in various ways and apply learning to new situations as they interact and cooperate with peers.

Chapter Three
The Adult Roles

The Adult Roles in the Expressive Arts

I hear and I forget; I see and I remember; I do and I understand.
Chinese Proverb

The teacher or responsive adult in an early childhood setting who wants to foster development through an expressive arts based curriculum, needs an "expressive arts" attitude. First and foremost, that means understanding that everyone is there to have fun. Life and learning are fun! Art, dance, drama, and music—the expressive arts—are creative responses to life. By following the child's lead and incorporating play strategies based on the children's interests and development, the responsive adult shows acceptance, respect, and even encouragement of creative ideas, processes, and responses of individual children, as well as the group, through expressive arts activities. All adults, whether parents, family members, teachers, program assistants, or therapists teach children; therefore, throughout *ArtExpress* the word "teacher" will be used.

An environment that fosters young children's creativity also fosters their independence. However, the teacher must decide how much control goes to the children during any given activity, for the adult is responsible for the children's physical and emotional well being. Safety is a prime concern during any classroom activity. The teacher is responsible for structuring the environment and activities to prevent accidents.

An understanding of child development is essential so the teacher knows which tools and materials children are capable of using independently and responsibly, with minimum supervision, and which need restrictions, such as "only with a teacher" or "when you ask." Knowledge of child development is also a critical factor in planning developmentally appropriate curriculum and activities. Careful observation and monitoring of activities with an understanding of the dynamics involved helps the teacher be flexible and know when and how to intervene in a situation so maximum learning can occur. The responsive teacher encourages and assists children in taking risks to follow through with creative processes. Children safely learn from mistakes and build a sense of autonomy through independence.

An integral part of early childhood development is movement from thinking only in concrete terms to thinking abstractly. Representing an object from memory or expressing a feeling, thought, or quality, such as "goodness," are examples of abstract thinking. This ability to think apart from any particular object or real thing factors significantly in literacy development. Abstract thinking is enhanced by children's participation in the expressive arts, especially when the teacher values, respects, and encourages each child's creativity.

Through careful observation, teachers constantly assess children's ever-changing interests and needs to aid in planning and intervention. Based on observations and assessments, teachers guide children's learning by providing developmentally appropriate materials and activities relevant to children's interests and concerns while keeping in mind any disabilities or limitations of the children. Children are invited, but never forced, to explore and experiment with materials or activities, to stretch their creative imaginations, and to practice important developmental skills. Children should always have choices, and the responsive teacher provides options and information for their choices and then accepts and values children's choices. Observation reveals when direct teacher involvement would best support children's learning or play.

Young children learn through their play. When the teacher in charge understands that activities are intended for children to have the means to communicate their feelings and ideas, to gain confidence and independence, and to experience a sense of their own power, the pressure of producing a predetermined product or action is removed. Respect of others' ideas and feelings is also nurtured. Teachers base their evaluations on the child's reaction to activities, including the amount of time spent on task, the amount and quality of both verbal and nonverbal communication among peers or teachers, and the activity's level of difficulty for each child. Adaptations are made as needed so all children feel successful. The atmosphere of acceptance created by the teacher validates each child's efforts, which in turn enhances self-esteem and lets children know their play is highly valued.

The responsive teacher who appreciates the role that play has in learning provides materials, space, and time for children to explore and discover. This gives children opportunities to construct their own understanding of the materials. They are then able to move to representing personal understanding symbolically through play. The expressive arts are in their very nature symbolic expressions. The versatility of the expressive arts offers all children the means to express themselves through play.

To Foster Creativity:
- Provide opportunities to repeat activities so children can explore the activities in many ways.
- Provide time, space, and materials for play.
- Prepare the environment so learning occurs through active exploration and interaction with teachers, other children, and materials.
- Allow time to practice and explore materials and ideas.
- Provide materials and activities that are interesting and naturally motivating.

To Encourage Independence:
- Provide children with opportunities to make choices.
- Provide for self-initiated activities.
- Involve children in preparing materials.
- Enable children to be involved in the set-up and clean-up of daily activities.

To Nurture Respect for Others:
- Accept a child's response to questions.
- Develop children's ideas, questions, and interests into concrete learning experiences.
- Provide opportunities to informally discuss children's discoveries.
- Provide opportunities for peers to assist one another.
- Encourage, but never force, participation.

To facilitate the development of the "whole child"—language, cognitive, social, and motor skills and understandings—the responsive teacher must be prepared to support and extend children's experiences at home and in their community. Teachers need to carefully look and listen to discover what a child's interests and experiences are and what they mean to the child. Teachers need to identify children who have limited art and play experiences and enhance those experiences. The teacher influences the direction of play by 1) asking for information, 2) asking for instructions, and 3) responding to children's actions or comments. At times, an overt verbal response may be beneficial to promote language and language skills at a "teachable moment." Other times require the teacher to remain an observer who subtly adapts the environment to include children's ideas.

Teacher Involvement In Art Play

The teacher's role and involvement in art play with children are very important and include structuring the environment to facilitate art play. Young children respond best when interacting with a responsive and nurturing adult who has as a goal the well being of the whole child. The teacher's role is to observe carefully, take cues from the child, and let the child solve problems and discover. The teacher closely watches the child to assess and evaluate the need for modifications or changes to the environment, then supports skills and learning as needed.

Teachers who facilitate child-initiated discovery, oversee carefully and determine what the child is doing before deciding to intervene. Trisha, (age four, LD), was painting a large blue irregular circle shape. As she added red paint to the paper, the paint ran down the page. She watched it and then carefully put drops of red, green, and yellow paint on top of the blue line so that she had drips and trickles of different colors running down her paper. This is a very skilled task although the finished result looked "messy and haphazard". Some teachers, on seeing drips of paint on the painting would say, *Be careful, you are dripping paint. Wipe your brush first.* Trisha's teacher had been watching and knew that this experience had enabled Trisha to discover the result of mixing blue with other colors. When Trisha saw her teacher's interest she said, *Look, look!* She pointed to the top of the easel where the drips were running down in different colors. The teacher said, *They are all coming from the blue.* Trisha smiled and began pointing and naming some of the colored trickles. A teacher cannot always be observing when paintings or other art projects are being done but can avoid judging or making negative comments, such as, *It's too bad you let your paint drip, Trisha. Next time, please wipe your brush.*

Many children never see teachers or other adults drawing, painting, or constructing. Many teachers admire or assess children's work, but never make their own. The benefits children gain by seeing adults enjoying and profiting from reading are well documented, yet children seldom see adults actively involved in the visual arts. Model playing with the art materials; share in the children's play; give children a chance to see a more skilled person do it. Do not tell children what to do; but do make collages, constructions, drawings, paintings, or model along side the children. Do not suggest that children copy, but let them watch and learn how to use tools and materials from you or their peers. Encourage children to ask questions or seek advice. When teachers model, demonstrate, and suggest new art materials and processes, they may stimulate ideas for children. Encourage children to try their own experiments and use their own imaginations at the same time.

Playing and interacting enable the teacher to 1) model more types of play behaviors, 2) engage children in play-related conversations, and 3) draw other children into the play episode. Theories related to teacher involvement in children's play for *ArtExpress*, are derived from those of Smilansky (1968). Figure 3, adapted from Collier (1985) and Manning and Sharp (1977) depicts the teacher's role in enriching play. Observation serves as the basis for provisions, indicating when and how to provide additional time, space, materials, and experiences. Observation also links provisions with teacher involvement. Parallel playing, co-playing, play tutoring, and being the reality spokesperson are the teacher's "in" to learning the children's interests and needs on which to base intervention.

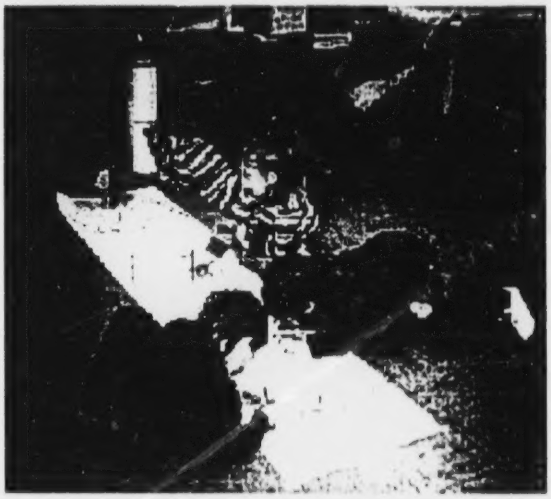
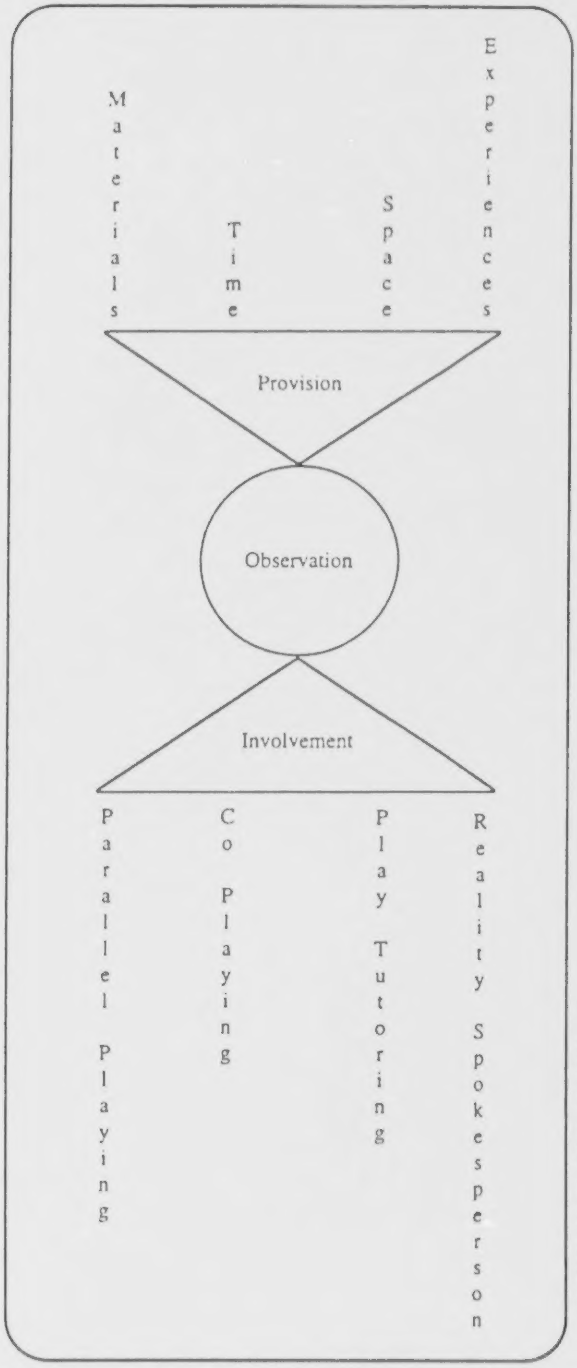


Figure 3. Teacher's Roles in Enriching Play



In *parallel play*, the teacher is near the children and playing with the same materials. While she does not interact with the children or impinge on their play, she might make an occasional comment to no one in particular. Children feel secure when a teacher is nearby. They feel their play is worthwhile so they may persist longer and learn new ways of playing through observational learning.

In *co-playing*, the teacher joins the children in on-going play, but the children control the course of play. The teacher responds to comments and actions and occasionally makes remarks or asks questions to extend the play. Rapport is built, which better enables the teacher to influence the level of play.

In *play tutoring*, the teacher initiates a new play episode and takes a more dominant role in maintaining partial control over the course to teach children new play behaviors. Smilansky (1968) used two types of play tutoring techniques in her play-training study.

1) Outside intervention—teacher does not disrupt the play episode but remains outside of it and makes comments or suggestions.
2) Inside intervention—teacher takes on a role and actually joins the children's play, modeling to teach new skills. It is more obtrusive than outside play.

Thematic-fantasy training, a type of play tutoring, is a three-step process developed by Saltz and Johnson (1974) which has children acting out stories. The first step has the teacher read the story and discuss it with the children. During the second step, the teacher gives roles to the children, assists in the initial reenactment, acts as the narrator, and provides prompts, if necessary. During the third step, the children reenact the story several times, changing roles and gradually eliminating the need for teacher intervention.

The reality spokesperson takes advantage of a situation and uses play as a medium for academic instruction, getting children to think about the real-life consequences of the actions in their play. The teacher does not take a role in the play but instead asks questions and makes suggestions that engage children to think in terms of reality. Children frequently carry or place their babies inappropriately. A responsive teacher acting in the role of reality spokesperson might ask questions such as, *How do you think your baby feels being carried around by her hair? Does it hurt?*

It is appropriate for the teacher to become involved when children do not engage in the activities, have difficulty playing with other children, or in some cases, where the play appears to be ready to break down. Each situation requires careful observation beforehand to determine how to become involved and again after the involvement, to determine whether it was effective.

Teaching Strategies

Interactive teaching strategies use the whole spectrum of a teaching strategies continuum, ranging from non-directive and mediating to directive. The key is in knowing which strategy will be most effective to use in each situation. The following list, adapted from Bredekamp and Rosegrant (1992b), describes a few useful strategies often used in education.

- **Withholding Attention**
  Adults will sometimes withhold attention when it is known that a child can do something independently. Attention may also be withheld when a child exhibits an inappropriate behavior, because it gives the child the opportunity to change the behavior without adult intervention. The teacher is then able to observe the other children's reactions, to "pick up" on the dynamics involved, and decide how to best deal with the situation to everyone's advantage.

- **Acknowledging**
  Recognizing a child's accomplishments is not always enough. Sometimes children need to know that someone appreciates their work and understands and believes that their efforts are worthwhile and valued. Everyone needs reinforcement sometimes. Acknowledging the child's efforts or thanking them gives the child a feeling of self worth; someone else knows what just happened and that person thinks it's worthwhile, too!

- **Modeling**
  Sometimes, it is necessary to demonstrate to children a behavior that is desired or a method of doing something a certain way, such as how to use specific tools, yet it can be inappropriate if it totally disrupts play. Young children are very perceptive and modeling or displaying the desired behavior makes them aware of it, allowing them the chance to learn from their own problem solving skills. Developing respect for others' feelings is a behavior that is often best modeled, such as in situations where someone's feelings are hurt. The teacher can take advantage of the situation and help the children become aware of all feelings involved as they comfort the hurt child.

- **Facilitating**
  Facilitating refers to the temporary assistance given to a child so that learning can progress. The teacher committed to an expressive arts-based curriculum facilitates learning through structuring the environment. Such structuring does not mean doing the work for the child; it means assisting the child to work independently. An example might be holding or steadying the easel paper so that the child can clip it to the easel.

- **Supporting**
  Temporary assistance is not enough for some children. They need support from their environment, such as adaptive scissors or assistive technology. In some cases the teacher may serve as the child's support, but the goal is to use supports to help the child learn from the materials and activities as independently as is possible.

- **Scaffolding** (Vygotsky, 1978)
  This strategy involves setting up challenges and assisting the children to work "on the edge" of their current competency. It is a way to enhance learning and to clarify children's understandings by building on skills and knowledge they already have. Examples might be taking a field trip to a local art supply store or a museum to clarify understandings of the

materials and the role of the artist or inviting other people into the classroom to demonstrate a process or interest the children have demonstrated in their play.

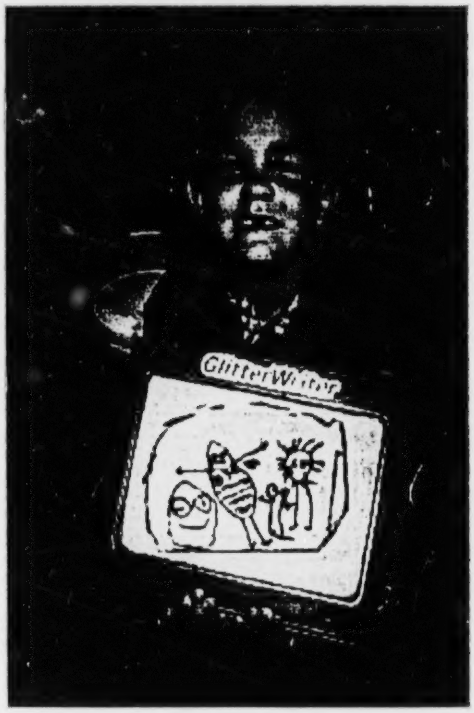
- **Demonstrating**
  The teacher is sometimes the active participant and the children are observers. Demonstrating and modeling are very similar; however, demonstrating something is more direct. This technique is most useful when teaching a specific skill such as clipping a paper to the easel. Playing a musical instrument, mixing paints, or talking on the telephone are examples of expressive arts activities that can be demonstrated.

- **Co-constructing**
  Both the teacher and the child are equal players with this strategy. They may be working jointly on a block construction or going on a pretend shopping trip. Each one can learn from the other.

- **Direct Instruction**
  Sometimes specific directions are necessary, especially when a child's safety is concerned. In such cases, direct instruction and supervision are appropriate. For example, when drawing with wax crayons on a warming tray, the child will be burned if the edge of the warming tray is touched. Direct instruction, along with supervision, is needed to minimize the chances for accidents.

- **Intrusion**
  When children are in danger of hurting themselves or others it is necessary for the teacher to intrude on the activity. Intercede to stop behavior and intervene by forcing the child to reflect on what was being done and how it was hurting or could cause hurt.

In developmentally appropriate early childhood programs, the teacher provides many opportunities for exploration during the day. During center or work time, children choose from a variety of media. An art center, music center, or dramatic play center develops children's independence if the teacher places materials within children's reach. The following sections describe ways to incorporate the visual arts, music and movement, and dramatic play into the curriculum.



Visual Arts

The process of artistic creation is much more important than the final art product for the young child. Using forms, coloring books or mimeographed pictures, drawing a picture for children, or dictating to them what to draw or paint does not promote creativity. On the other hand, freedom to create is enhanced in an environment where the teacher demonstrates respect and acceptance for each child's ideas and finished products and encourages children to talk about their work, both during the process and afterwards, with a teacher and other children.

Effective teachers see that all art materials are prepared in advance so that children do not have to wait to begin a project. In addition, teachers need to remember that anything can be cleaned up. Clay, finger painting, and goop activities are not truly "messy" or "dirty," but rather "clayey," "painty," and "goopy." Children need to know that it is OK to get painty. Art activities can be done in small groups or personalized and adapted for the individual child. Displaying the work of children at child-eye level indicates acceptance and further enhances their self-esteem.

Children will grow to appreciate and create art in a way that is satisfying to them, when adults respond to children's creative endeavors by commenting on the artistic elements in their work, rather than resorting to platitudes, criticism, or interrogations of children about their art work (Schirrmacher, 1986). The elements of art (color, line, pattern, shape or form, space, texture, and mass or volume) provide a good framework for responding to children's work.

Strategies for Incorporating the Visual Arts

- Make art materials available to children at all times.
- Provide materials and activities that are interesting and naturally motivating.
- Involve children in the preparation of materials (mixing paint) used in art activities.
- Enable children to be involved in the set-up and clean-up of daily art activities.
- Provide opportunities for children to explore their environment, inside and outside, and discuss the discoveries.
- Provide children with opportunities to produce art spontaneously using materials and activities such as drawing, painting, cutting, gluing, collage, play dough, and construction.
- Avoid forms, coloring books, and mimeographed pictures for children to follow.
- Allow time to practice.
- Create cause and effect relationships.
- Provide for choice and self-initiated activities.
- Encourage and facilitate verbalization and self talk during art activities.
- Use art materials and activities as topics of communication.
- Encourage and facilitate peer interaction and verbalization during art activities.
- Provide opportunities for peers to assist each other during art activities; such as putting on paint shirts.
- Encourage children to design for design's sake (a picture doesn't need to be of anything specific).
- Present opportunities to increase hand-eye coordination through creative art activities.
- Allow opportunities for design and form experimentation and use of natural materials to create collages.
- Provide opportunities for construction of ideas in various forms (cardboard and wood construction, collage, and blocks.).
- Encourage and appreciating children's art, but never judging that art.

Music and Movement

Music and movement are important aspects of daily life. Children hear music everywhere they turn. Music is on television, in the grocery store, and on the car radio. It should be in the classroom as well. When children hear music in their environment they become more familiar with music. They then begin to feel more comfortable expressing themselves through movement. Just by playing music in the background during art or playtime, children will begin to learn melodies and words to the songs they hear. When teachers hear children singing a song, the teacher can sing along with them. The teacher can also show the children how much she likes music by singing while she works. Children don't judge the quality of the voice that is singing but they do respond to the enthusiasm and

enjoyment that the voice portrays.

Children need to have choices in music. Providing a place in the classroom with a CD or tape player and a wide selection of music gives children the opportunity to make their own choices. Providing headphones lets children listen without disturbing the rest of the group. As children become comfortable with music, movement begins to happen naturally. The teacher can encourage movement by providing exciting props such as scarves or streamers.

Strategies for Incorporating Music and Movement

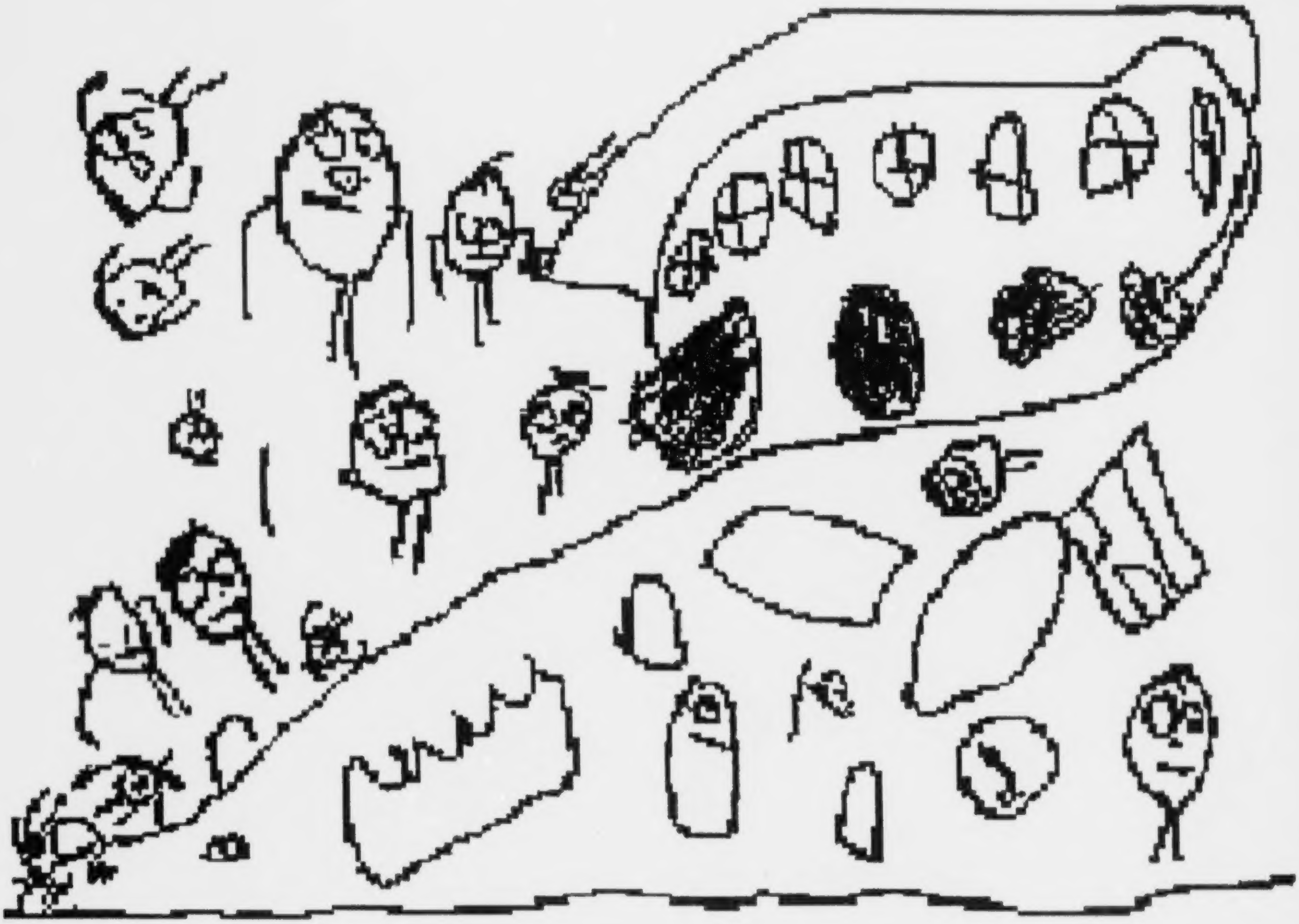
- Provide a wide variety of music ranging from classical to lullabies to children's to contemporary.
- Involve children in movement activities with props such as streamers, scarves, or fabric.
- Provide opportunities for feedback from children on the types of music they enjoy.
- Expand on the children's interests in music with selections similar to their favorites.
- Allow time for children to enjoy their selections.
- Encourage movement for the sake of movement and for pure enjoyment.
- Use music and movement as topics of communication.
- Provide for choice and self-initiated music selection and movement.
- Encourage and appreciate children's musical selections and movement activities, but never judging the selections.

Dramatic Play

Dramatic play can occur in any part of the classroom. The housekeeping area can become a hospital, the doctor's office, a grocery store, or a family home. A block structure could be a castle, a race car, a space ship, or a dinosaur. A lump of play dough might be a birthday cake, a snake, or a car. In children's spontaneous dramatic play, the teacher's role is to observe children's interests and support learning by planning the environment with opportunities for dramatic play. This involves planning for enough time, space, and dramatic play props and materials.

Strategies for Incorporating Dramatic Play

- Provide familiar, realistic props such as dolls, toy telephones, and household items.
- Encourage and build on children's spontaneous use of objects.
- Model ways to use objects symbolically.
- Create a dramatic play area rich in materials and costumes to encourage children's spontaneous play.
- Allow enough time (at least 45 minutes) for satisfying drama to develop.
- Observe children and ask questions or offer props to help extend their play.
- Continue to encourage children's own dramatic play.
- Allow children to discuss their play on their own, stepping in to help only when needed.
- Read stories often and encourage children to reenact them using dramatic play, felt boards, and organized creative dramatic activities.
- Provide many open-ended props and materials that children can use in their own way.



Chapter Four
Structuring the Art Environment for Learning

Structuring the Art Environment for Learning

Only when children have had time to play and explore new materials in their own way will they be able to see the materials as learning materials.
Mary Baratta-Lorton

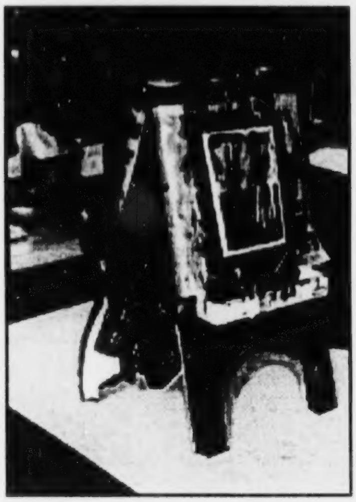
Open-ended and child-centered environments invite children to explore and experiment with materials, stretch their creative imaginations, and practice developmental skills. A child-centered expressive arts environment encourages children to learn without the pressure of producing a predetermined product or action.

Art activities are an important aspect of young children's educational development. Adults can provide a wide variety of activities in the arts to help young children develop cognitive skills, motor skills, social skills, and both verbal and non-verbal communication skills. Teachers can help develop children's artistic ability by encouraging children to talk about their art work, displaying examples of adult art work throughout the classroom for the children to view (Dyson, 1990), and incorporating strategies to integrate a variety of curriculum areas into arts activities including language arts, science, and other content areas (Schirrmacher, 1993).

Structuring the environment in early childhood programs includes four dimensions: 1) structuring time; 2) structuring space; 3) structuring materials; and 4) structuring activities. A wide range of teacher strategies can be used in the art environment depending on the child, the disability, and the learning situation. These strategies include direct exploration, observational learning or modeling (learning by observing another child or an adult engaged in the activity), peer tutoring, teacher tutoring, and teacher direction.

Structuring Time

Integrate art activities into daily schedules. Allow ample time for art activities rather than adhering to strict time periods, so children who are attending to an activity can complete it rather than be interrupted. Art activities can occur during free choice time, activity time, and play time in the classroom or at home.



Many young children, those with or without disabilities, have problems with transitions, especially if they are focused and involved in a project. Announce to the children five minutes in advance that clean-up time is approaching, and give reminders every couple of minutes. Try using a recording of soft relaxing music to cue clean-up time. Clean-up begins when the music starts and ends when the music ends. This is very effective as well as relaxing. During clean-up time, assign children specific tasks to do related to the activity they were working on. An example of this could be, *Susan, you can hang up your paint shirt and wash the paintbrushes you used.* Giving multi-step directions helps sequence and focus on tasks. Allow a good 10-15 minutes for the clean-up process to give children time to sort, clean, and feel positive about putting their special art projects away.

Structuring Space

Arrange and organize space to facilitate a variety of art activities. Figure 4 shows an example of a floor plan for an early childhood classroom. Locate the classroom's art center close to a sink in a well-lit area. If a sink is not available, use a bucket of soapy water and towels. If possible, the art

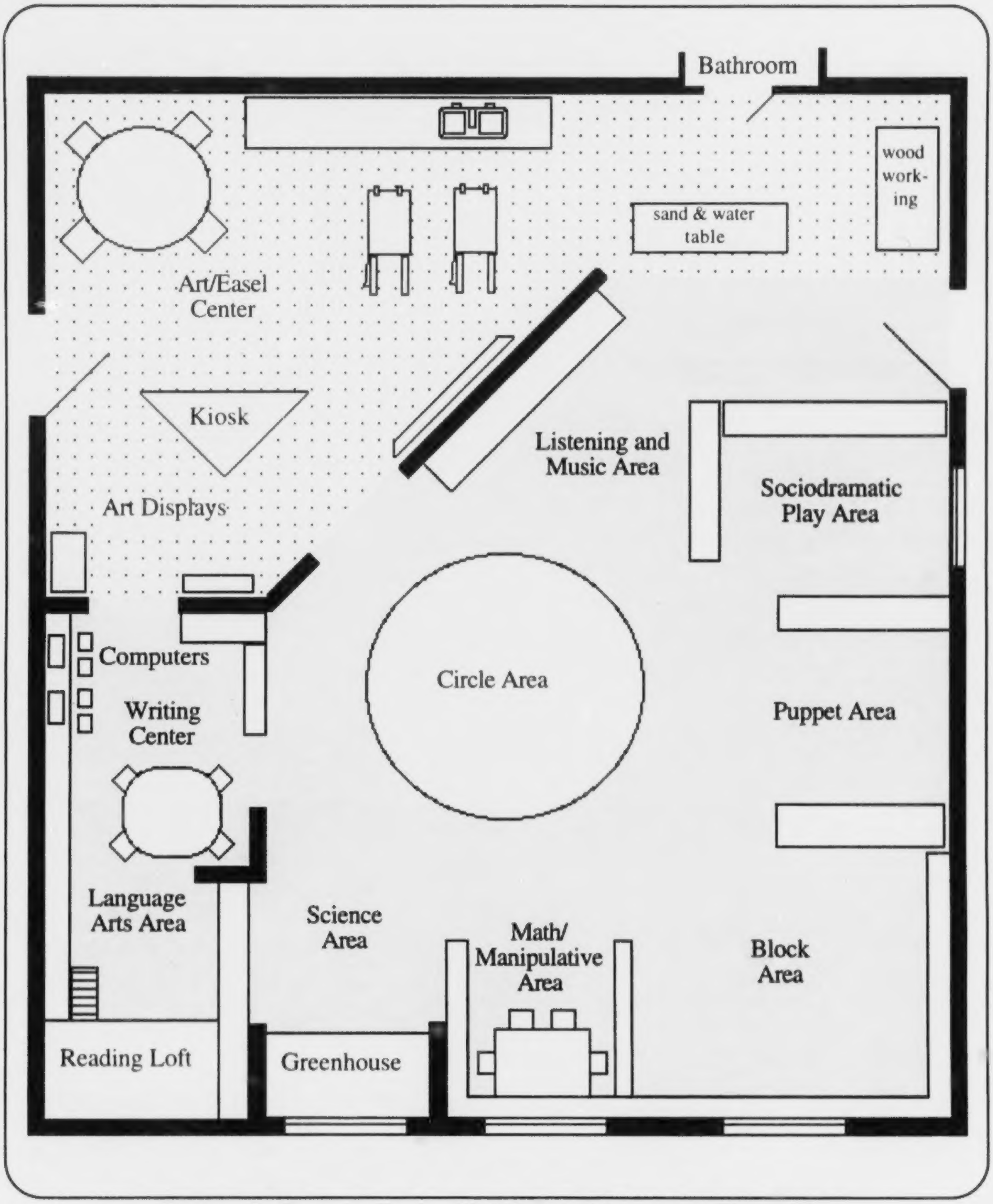

Bathroom
wood work- ing
sand & water table
Art/Easel Center
Kiosk
Art Displays
Listening and Music Area
Sociodramatic Play Area
Computers
Writing Center
Circle Area
Puppet Area
Language Arts Area
Science Area
Math/ Manipulative Area
Block Area
Reading Loft
Greenhouse

Figure 4. Sample Early Childhood Classroom Floor Plan

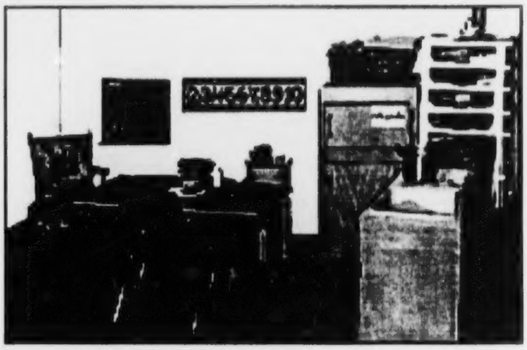
center should be near a window to provide natural lighting to the area. Provide ample room for a work table that can be used with child-sized chairs as well as wheel chairs. Locate easels out of the main traffic area to prevent them from being knocked over. Provide sufficient room around the furniture for easy open movement.

Adapt the physical environment so a broader range of activities can be experienced by children with visual impairments. Take the child on a tour of the art, music and movement, and dramatic play centers. To help them learn the location of tables, supplies, and materials, provide tactile guides in the room. Provide extra light in the art area for children who have some vision.

A low bookcase serving as a room divider provides storage space for materials, allows classroom visibility for the teacher, and secures the area from becoming a main traffic area. The bookcase is ideal for storing plastic bins holding an assortment of paper in a rainbow of colors, textures, and weights. Other bins can hold glue, paste, scissors, adaptive scissors, rollers or brayers, brushes, assorted markers, crayons, play dough and clay, stamp pads, and assorted stamps. String a drying line along the wall to dry paintings. The ideal floor covering is tile or linoleum. If the room is carpeted, place an old shower curtain, a drop cloth, or a Plexiglas desk mat under the easels. Finished art work can be mounted and displayed around the room and the school. For more information about how to display children's art work, see the section at the end of this chapter.

Although music and movement activities can take place throughout the classroom, a special center for equipment is necessary. This center can also serve as the space for group music activities. A record player, cassette player, or CD player with headphones should be available for children to use during free choice time. Low shelving units can hold instruments and other equipment as well as serve as a divider for the area.

The dramatic play area needs to be large enough for several children to use. If children use walkers or wheelchairs, wider spaces need to be provided between the stove, tables, and props. Allow for flexibility—some children like rearranging and moving furniture in the dramatic play area to further enhance their play. Furniture can be returned at the end of the day. It's not important to return the furniture to a set pattern on a daily basis, but this activity uses spatial intelligence and visual memory skills.



Consider the computer center as an extension of the learning centers. Many interactive early childhood software programs, such as *ArtSpace*, *The Backyard*, *CircleTime Tales*, *Kid Pix*, *A Silly Noisy House*, *Switch Intro*, and *Thinkin' Things*, are perfect for extending visual arts and music activities or for providing the basis for creative dramatics and dramatic play.

Before using a computer in your program, consider the environmental design. The following section is adapted from *Building Interactive Futures* (Hutinger, Johanson, Robinson, & Schneider, 1997). The computer center within the classroom should be a safe and pleasant place for children. Whether the computer is in the classroom daily or access is on a rotating basis, the set-up of the equipment requires some planning. Place the computer against a wall, near an outlet. Wires can be taped securely to the floor to avoid any tripping accidents. Power surges can damage hardware and erase memory, so use a surge protector. Sunlight and heat sources can damage computer chips and floppy disks.

Sunlight also makes a glare on the computer screen. Placing the computer away from these areas avoids any damage and glare.

Select a low traffic area of the classroom for the computer center. This area should have definite boundaries, excellent lighting, and limited distractions. Place the computer on a table without a rug beneath it to avoid static electricity that can result in the software operating improperly. Adjust the height of the monitor so that it is at a comfortable level for each child. This may mean special adjustment for children in wheelchairs or specialized seating. Monitors can also be placed on the floor with an input device, such as a switch or a TouchWindow.

Have an index file (or some other system) at the computer center for keeping track of what goals are being targeted, what levels the children are working on for specific software, or what adaptive equipment a child may require. Keep software in protective disk envelopes and covered disk holders away from any type of magnetic field (fan, motors, telephone, the monitor), the heat register or direct sunlight. Place the equipment to allow free air circulation around and into the vents on the computer case. Locate the computer in an area away from chalkboard dust, the sand table, and water. Allow only clean, dry hands at the computer. Computers don't eat or drink so keep food and drink away. Encourage children to use their computer fingers (one finger at a time instead of random banging) when using the keyboard and a light press when using the mouse. When the computer, monitor, and printer are not in use, keep them covered.

Structuring Materials

Art materials and tools, including adaptations, need to be easily accessible to children and placed at their eye level. Such accessibility makes art activities more inviting and motivating than a haphazard arrangement where supplies and tools are inaccessible. The minimum of basic art supplies includes paper of all kinds, developmentally appropriate drawing and painting tools, non-toxic paint, adhesives, play dough, scissors, and a variety of found materials. Also make set-up and clean-up materials and equipment accessible and available. For a child with visual disabilities, find out which colors are most easily seen, then supply materials in those hues. When introducing new materials, give children extra time to touch and explore them. When finger painting, use a color of paper that contrasts strongly with the color of the finger paint. Add sand, salt, or other materials to the finger paint for a change of texture.

> *Kendra, a child in a Birth-to-Three program, had multiple disabilities, including visual and auditory impairments and developmental delays. On a day when one of the teachers wore a black outfit, Kendra visually tracked the teacher as she walked between the art table and a window. Since Kendra appeared to be able to discriminate very dark colors, she was supplied with very dark crayons and markers with high contrast paper. Kendra picked up the crayons, brought them close her face, and then made several random marks on her paper. After making the marks, she moved to another activity.*

Locate technology equipment and adaptive art materials (such as a computer, graphics software, color ribbon, a printer, video camera, and art images), at the child's eye level. Arrange the space comfortably with easy access to working switches, a TouchWindow, graphics tablets, and tape recorder with a battery interrupter to make expressive arts activities more inviting, motivating, and accessible. Structure materials and adaptations of materials to use by children with disabilities. For example, if a child with physical disabilities is to use *EA*Kids Art Cente*r and a touch tablet, such as IntelliKeys or Key Largo, the program should be "booted," the customized setup selected, the alternative input device attached, and the screen ready for the child to begin creating. Immediate access to wedges and supports for positioning is also important so a child with disabilities can participate in art activities.

Many teachers use cassettes, but CDs can be cued to the correct song without the scratching of the needle as with record players. Children can manipulate the CDs if they are taught the appropriate way to handle them. Many people find opening the plastic jewel boxes frustrating; a variety of CD holders are available that don't use the plastic jewel boxes. A musical selection containing children's songs, popular music, folk songs, classical music, jazz, and music from other cultures should be part of your music collection. Public libraries often have a collection of records, cassettes, and CDs to borrow if you have a limited budget.

Musical instruments also need to be available to children during free choice times so children can explore and make sounds with a variety of them. A rhythm set is a good start, but be sure to add some instruments from different cultures such as a rain stick or a guiro. Encourage moving to music by adding scarves, streamers, a parachute, or a large sheet to your music and movement center. Puppets, flannel board characters, and other props can also be added to the area.

Structuring Activities

Plan, select, and implement activities in the curriculum that can be used differently by different children, depending on specific needs. Images each child produces will differ according to the child's experience with materials and developmental level. If children draw with crayons, the child with physical disabilities might use a crayon with a large or extended handle grip device, or computer graphics software with alternative input. If children create collages with construction paper pieces and glue, the child with physical disabilities might place the construction paper pieces on a sticky board.

Structuring activities may mean using rebus charts, graphics, written or audio taped directions to provide a sequence of steps, rather than an adult's verbal directions (teacher-directed). It might also mean providing the child with opportunities to observe other children making art so the activity becomes more child-directed. Structuring activities may also refer to children following instruction icons drawn on a poster or card to operate a software program.

Children might use a computer graphics program such as *Kid Pix* with a TouchWindow that simulates broad strokes of color. The image can be printed in different sizes and in color with a color printer. The teacher can help the child capture an image from other programs using *Flash-It*, which can be enlarged in *ClarisWorks* and then printed. Laminate these images to assure sturdiness and use them as props, costumes, or characters for an impromptu dramatic play or puppet show. Children also might reproduce and print images using "The Studio" portion of *ArtSpace*, a CD-ROM developed by Macomb Projects. If children's work is collected to make a class book, the printed copy can be included.

Let children become familiar with their bodies and the movements they can make through repeated activities. Movement activities provide a creative outlet for many children, and the teacher should acknowledge and value all responses, keeping a close eye on safety factors. A large floor area is needed to provide children with enough space to explore their movements. More space is needed to accommodate walkers or wheelchairs. When planning active music and movement activities, plan for rest breaks by balancing active music with restful music. Many music and movement ideas are appropriate for the early childhood classroom.

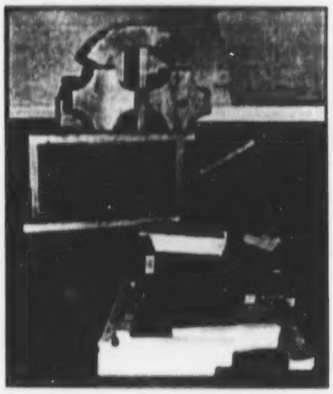
Children naturally respond to music by moving, but movement activities can also take place without music. Through movement, children learn about space, time, energy, and shape, which are abstract concepts. When children move as rain or leaves, they are using their bodies in a concrete manner to understand the abstract (Stinson, 1989).

Learning through Observation

Both peer and adult modeling (observational learning) processes can be used to present activities in the arts. Modeling processes can be live demonstrations or videotapes of the demonstrations. Observe children's responses to determine the informational aspects of each activity that children might observe. For example, one child might watch another child using the TouchWindow, focusing on the active child's arm movements, the images the child's fingers make sweeping across the screen, the use of the side of the fist, or the story the child tells while working. After observing the child, determine how to arrange positive learning situations with art activities and processes.

Incorporating Play Strategies

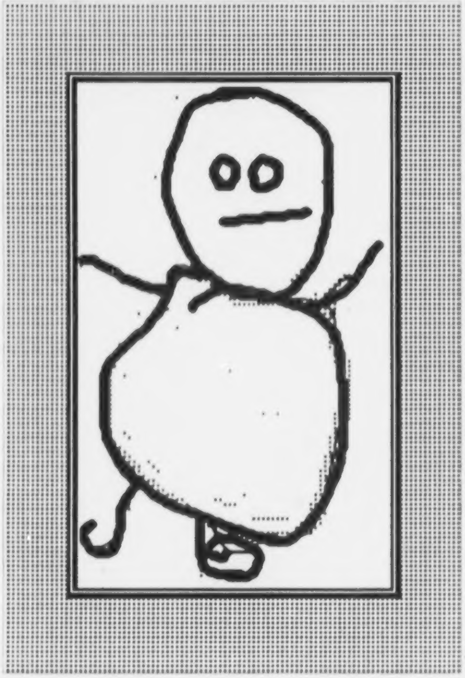
Invite children to engage in open-ended play with art materials by providing interesting combinations of tools and materials. Set these materials out for the children to use at their leisure during free choice or center time. Children's creative understandings and interpretations should be encouraged, rather than showing them reproductions of adult work to copy or assigning specific art projects. Materials can be in open containers on low shelves to encourage independent use. Display large reproductions of adult art along with the children's art. Adults can join in the play with art materials. The teacher might say, *Here are some bright colored tissue paper pieces. What can we make?*



Creative art also occurs spontaneously in the block area. Block structures can sometimes remain up so children can add to their creations over time. Allow children to bring props and materials from other areas of the room to add to their creations. Added props such as large boxes, interestingly shaped wood pieces, and colorful cloths can be placed in the block area at various times. Instead of asking, *What is it?* when children build, teachers can describe the structures or actions and children can be encouraged to tell about their work.

Displaying Children's Art Work

How teachers handle children's art when it is finished says much about how they value children's efforts. Children experience pride, joy, and satisfaction when they see their work displayed. Children's art displays can be a meaningful experience aiding development and aesthetic values.



Matting Children's Art Work

Materials:

- Your child's drawing or painting
- Construction paper
  Look for a color that repeats a color in the drawing or painting.
- Scissors
- Stapler or glue

What To Do:

- Cut the construction paper at least two inches larger than the drawing or painting on all sides.
- Staple or glue the child's art work to the construction paper.
- Give to relatives as gifts.
- Display in honored places.

Place a painting or drawing on a large piece of colored construction paper with pieces of rolled masking tape, pins, staples, or thumbtacks. This creates an easy and inexpensive way of producing a reusable frame. Even the simplest drawing or painting takes on a lively personality with a little color around it. Use bright colors that repeat a color in the drawing or painting. The picture should stand out, not the frame.

Ideally, all children's work should be displayed at all times. Informal balance is usually more interesting than a formal arrangement. Balance light and dark, bright and dull areas, as well as sizes and shapes. This adds to the quality of the art display. Display areas, no matter how small, should not be over-crowded, and a display should not be left up long enough to become stale and faded.

Children's art displays should be planned with the children in mind even though adults will be enjoying them too. A great deal of teaching and learning can take place in front of a well-planned display. Keep in mind that the purpose in displaying children's work is to let all enjoy what children are thinking and doing.

Often teachers assume responsibility for deciding which art work to display by the children in the classroom. A better alternative is to ask children to make the choice. Giving children the opportunity to decide which painting or drawing they want displayed conveys a sense of respect for their judgment. Also, the children's opinions may be quite different from the teacher's! Children can help in planning art displays. They can select their best work for display. A display area that is at the child's eye level can be managed by the children in the classroom. Masking tape can be substituted for pins, staples, and tacks. Provide space, such as a shelf at the child's eye level, to display three-dimensional projects like block, clay, or LEGO constructions. Photograph the three-dimensional projects and display these on the wall in the block construction area.

A written description next to children's art displays gives teachers a way of documenting how the work was created, what materials were used, what problem solving processes the children experienced, and how the art work represents children's knowledge and feelings about a topic. Not all children's art work has to be about something. Some children may just enjoy exploring and experimenting with the materials. Children may also include emergent writing in their drawings and paintings.

Things to Keep in Mind when Displaying Children's Art Work

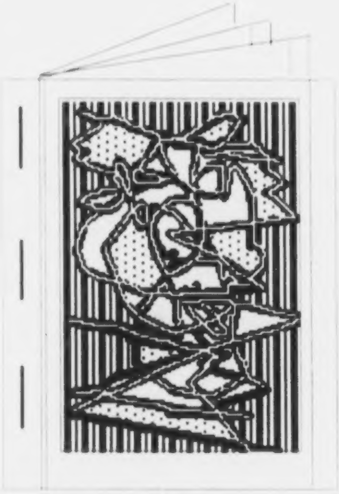
- Remember that the child's eye level is much lower than that of an adult. Place displays low, where children can approach, touch, feel, and even smell them if they feel like it.
- Display children's work unimproved. This applies to any finished work as well as work that is to be used as part of a larger display. For example, do not cut a child's painting to form leaves, flowers, or other decorative designs. If a teacher wants leaves for a display, the child should be presented with paper this shape before drawing, painting, or making a collage on it.
- Display reproductions of famous paintings or original art by professional artists in the same display with children's work.
- Leave some undecorated wall space to allow children to rest their eyes and avoid over-stimulation.
- When displays are changed, always leave some areas unchanged so children won't feel uncomfortable in what might appear to be new surroundings.

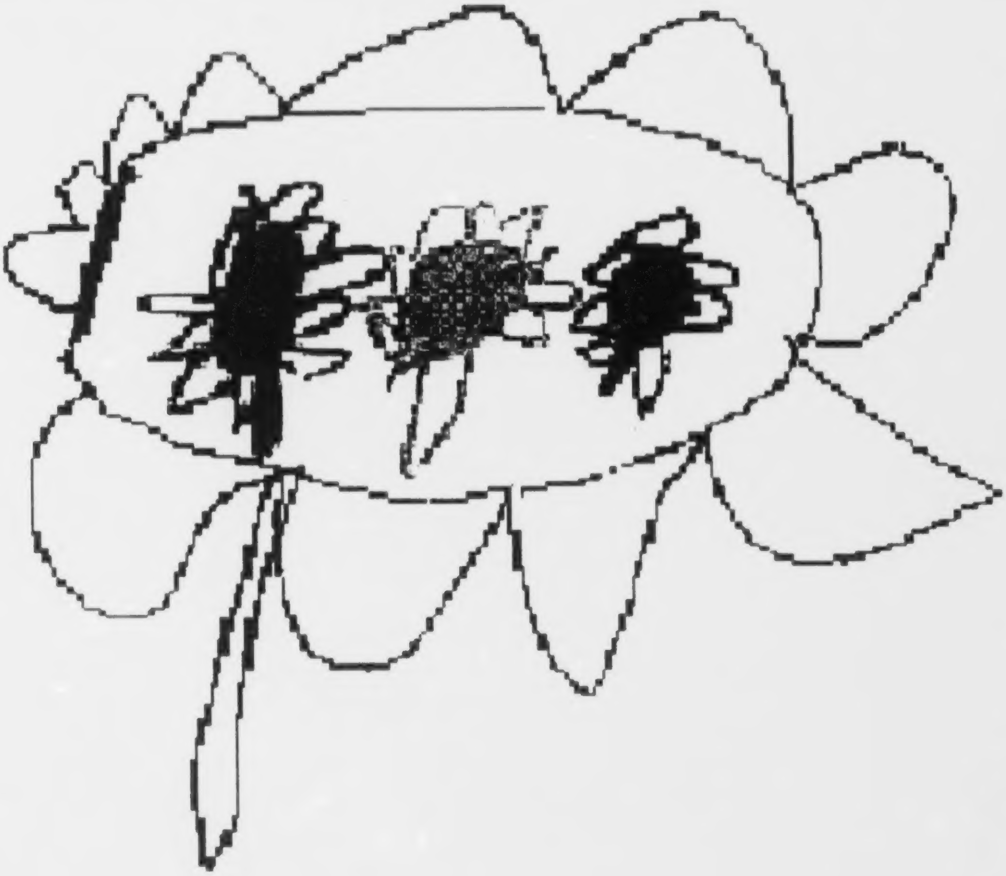
Another way to display children's art work is to create books. The books can be placed in the art area or on the children's book shelf. Children's art work created on the computer can be printed out in vivid colors and framed or made into books. Children can tell about their art work at group time. Books can also become mini-portfolios to document children's growth. The type described below, encourages the children to make choices and change pictures when new art is created.

Creating Changeable Books

Materials:
- Three or four zipper plastic bags
- Cardboard, tag board, or heavy construction paper
- Scissors
- Stapler
- Tape (electrician or water proof plastic tape)

What To Do:
- Line bags up evenly on the side that does not "zip" open; staple together.
- Tape securely over stapled edge.
- Cut a piece of cardboard, tag board, or heavy construction paper to fit inside each bag.
- Each bag or page can hold two child drawings. Change the pages of the book as often as you and your child want. Try also with photographs or cut out magazine pictures.





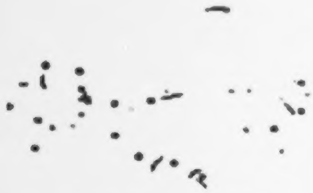
Chapter Five
The Visual Arts

Visual Arts

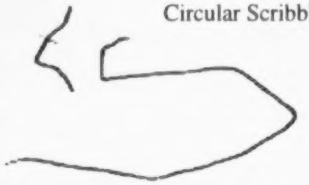
There is no "must" in art because art is free.

Vasily Kandinsky

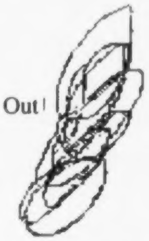
Almost all works of art, drawing, painting, and three-dimensional projects begin with and involve the use of line, one of art's basic elements. Lines are the foundation of shape and form. Lines can be straight, curvy, wavy, skinny, or fat. Kellogg's (1970) investigation of children's art focused on the characteristics of line formations found in children's scribbling, drawing, painting, and clay work. Kellogg provides a comprehensive system of classifying children's art and identifying recurring forms, designs, or Gestalts (Arnheim, 1974). A basic aesthetic ability is innate in all children. Spontaneous art is the most developmentally productive, and its value is in the act rather than the product. Examples of children's visual art, following Kellogg's developmental stages (basic scribbles, diagrams, mandalas, sun humans and pictorials) are pictured below.



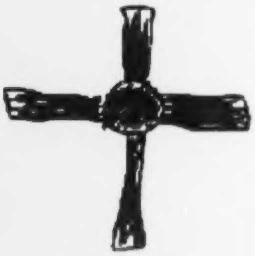
Dot and Line Scribbles



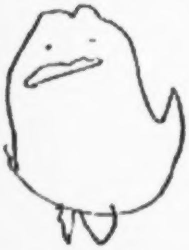
Roving Open Line and Cross



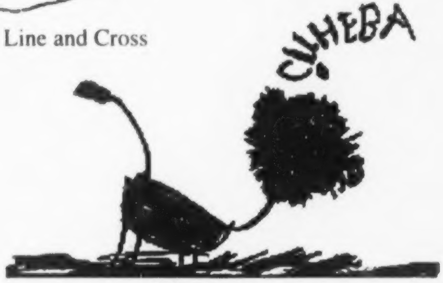
Circular Scribble Spread Out



Greek Cross



Armless Human



Pictorial

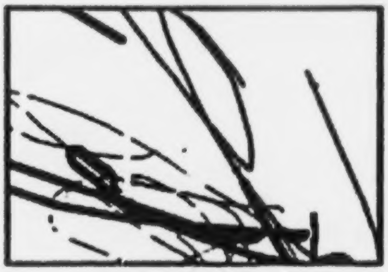
Other researchers have further developed understandings of child art, its relation to symbol formation, cognitive development, and communication (Arnheim, 1974; Golomb, 1992; Matthews, 1984; Schirrmacher, 1993). The arts make use of sets of symbols. Children invent symbols as they draw. These symbols are abstractions of the real thing. As young children acquire the ability to deal with abstractions, they think and communicate about absent people or things. Drawing, painting, or constructing images which represent the child's reality is the beginning of literacy. When children pick up a crayon or marker to make a mark, they are making the journey towards reading and writing. Adult artists communicate through their art and so do children. While we label the mark "drawing," it is the child's attempt to represent the world and to deal with abstract symbols which will later be used in literacy activities. The drawing itself communicates the child's knowledge or feelings of someone or some idea important to him or her.

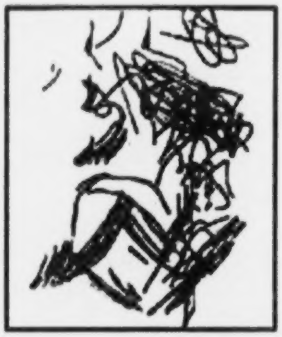
This chapter is divided into sections on Drawing, Painting, and Three-Dimensional Art. Each of these sections includes general knowledge, suggested ideas, and a variety of tools and materials, followed by a few sample activities.

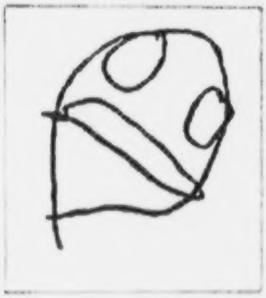
Drawing

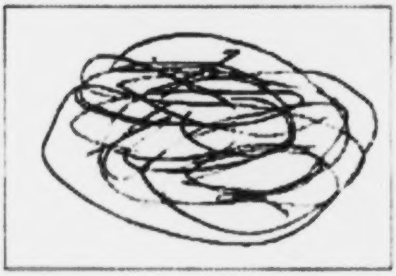
When I was seventeen, I drew like Raphael;
but it has taken all my life to learn to draw like a child.
Pablo Picasso

Scribbles are the first marks children make. Scribble marks are an important first step in the drawing process. All children's mark-making follows a progression from scribbles to diagrams and then from combined diagrams to abstract representations and recognizable images. Often emergent writing is a part of the drawing. This developmental progression is the same for all children, in all cultures, as documented by Kellogg (1970).



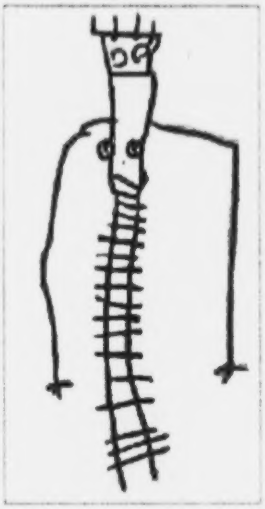


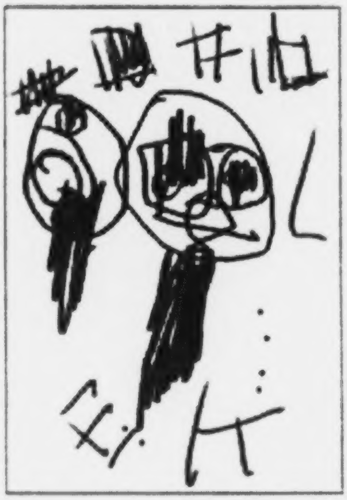




Young children who have a difficult time grasping objects can use various adaptive devices listed in Chapter 9. These tools may be essential for children with severe physical disabilities as they make marks, draw, and develop symbols.

The following pages suggest ways to use drawing tools, materials, and ideas to vary mark-making. The materials are non-toxic and the suggested activities are developmentally appropriate for use with young children from 18 months to 8 years.





Crayons
Crayons come in a variety of sizes and shapes. They can be large or small, chunky, chubby, or easy grip ice cream cone shaped. Some crayons even come in the shape of nuts and bolts. Crayons are colorful, durable, responsive to children's movements, and inexpensive. Vary the type of crayon, from time to time, to create new interest in the drawing center. Dark crayons contain more wax pigment than light colors. Dark crayons are softer and will leave an opaque mark. Children will have their color preferences, but young scribblers usually prefer dark colors. Invite children to help peel the paper from wrapped crayons, even when the points have not worn down. Now all sides of the crayon can be used. Encourage children to use up-down and swirl arm motions, use the points of crayons to make small dots, the flat end for

larger round circles, and the side of the crayon for making sweeping, wide strokes. Children can hold a crayon in the middle and rotate it to make a bow shape or large circles.

Worn down and broken crayons can be placed in muffin tins and heated in an oven to melt them into circular shapes. Children can mix colors by blending or overlaying crayons or markers on white paper. They can vary the pressure on crayons; heavy to light. Polish crayon marks by rubbing the finished drawing with tissue to make a shiny surface. Fasten two or more crayons or markers together with a rubber band or masking tape and draw. Children can also use crayons or markers on colored construction paper to create new colors.

Markers

Markers come in many vibrant colors. Use markers that are non-toxic and water-based. Children love the brightness of the colors and the ease with which the colorful lines flow on their paper. Many new types are on the market today, including bold colors, jungle colors, changeable markers, scented markers, OVERWRITERS, and markers with a small stamp on the end. Children can push, pull, or drag their marker across the paper, making horizontal, vertical, diagonal, and circular marks. They can use only dots to form a picture or design. They can draw to music. Adaptive grip devices can be attached to the child's hand and the marker. Invite and encourage children to explore drawing with markers.

Pencils

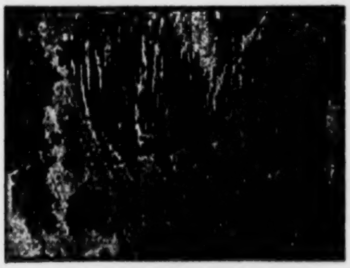
Colored pencils, soft lead, # 2 pencils, charcoal pencils, and grease pencils are just a few of the varieties of pencils available. Very young children may find pencils frustrating because they require more pressure to create a mark and the marks sometimes are not as vibrant or colorful as markers and crayons. Crayola markets thicker pencils that make a bolder color than the traditional colored pencils. However, older children do like the finer points to make more details in their drawings.

Chalks, Pastels, and Cray-Pas

Chalk is a good drawing tool for young children. Chalks come in many colors, shapes, and sizes. Large sidewalk chalks and chalks shaped like eggs and cones are durable and easy for very young children to grip. Children can draw and make marks on chalk boards, on paper of various colors and textures, and outside on a sidewalk or blacktop surface. On the sidewalk or blacktop, chalk drawings easily wash away with rain. Drawing on a bumpy concrete sidewalk provides opportunities for children to discover that marks look and feel different from those on paper or a chalk board. Wet concrete makes the chalk marks brighter.

Children can use the tip of the chalk and the side of chalk. They can rub or blend the dust on a cotton ball, use dry chalk on wet paper or wet chalk on dry paper. Try chalk soaked in vegetable oil or a solution of 1/3 cup sugar to 1 cup water. Soak large sidewalk chalks 5 to 10 minutes before use; colors will appear more brilliant and will smudge less.

White chalk is great for marking on a chalkboard and on black and colored construction paper. Colored chalks can be used for marking on chalkboards too. They also can be used on black, white, and colored construction paper. A slate table top on a small chalk easel can be used for children needing adaptive seating arrangements. Adaptive grip devices can also be used to help children with limited grips participate in the activity.

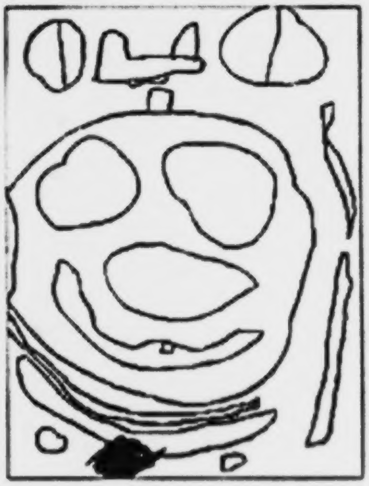


Pastels and Cray-Pas are oil-based chalks that create a more brilliant color than standard chalks. Children's versions are available. They are large enough for a child to easily grip and are non-toxic. Pastels and Cray-Pas provide the best of chalks and crayons. They are powdery but do not rub off like chalk. They are not as hard as crayons but are just as colorful and brilliant. Pastels and Cray-Pas leave a soft, smooth, velvety line. They can be used on both cloth and paper, but not chalkboards.

Children can draw with light Cray-Pas or pastels on dark paper or dark colored Cray-Pas or pastels on white paper. They can blend the edges of the colors with chalks or Cray-Pas. Invite children to explore ways to use the material. Try blending colors by rubbing with a finger, observing how the same color looks different on a variety of construction paper colors. An adaptive grip device can also be attached to the Cray-Pas.

Drawing Activity Ideas

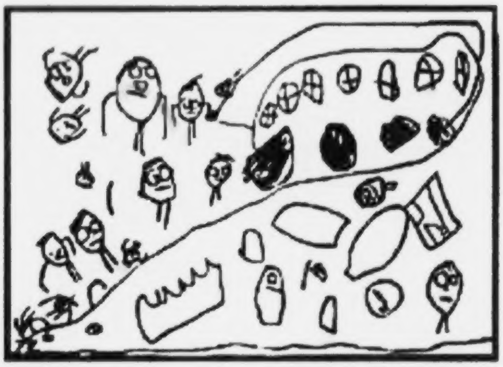
Introduce and support using drawing tools in a variety of ways to create different effects. Some children like to make marks with a crayon in each hand. Encourage rubbing the side or the end of the crayon or chalk, as well as the tip. Children can vary the pressure the crayon makes on the paper; from heavy to light. Dark marks can be polished with tissue to make a shiny surface. Mix colors by blending or overlapping marks. Use only dots to form a picture or design. Try crayon rubbings of a variety of textures like leaves, bark, bricks, or lace.



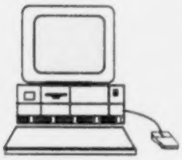
Changes in the size, shape, and texture of the paper extends the drawing activity and encourages further interest in drawing. Use crayons, markers, or chalks on colored construction paper to create a new color. Attach large paper to a wall surface to encourage using whole arm muscles as children draw from a standing position. Place large sheets of paper on the floor so children can draw while lying on their tummies or supported by a bolster. Spread a roll of butcher paper on the floor and children can use large sidewalk chalk on their "indoor sidewalk." Spritz the chalk drawing with water from a small plastic spray bottle and watch the colors darken. Moistening the chalk or the paper also requires the child to use less physical pressure as they successfully make marks.

Draw to music. Choose a variety of music, including traditional children's favorites, your personal favorites, folk music, dance music, marching songs, and classical pieces. Each musical instrument can suggest a variety of movements and ways to draw lines. The changing beat and rhythms can suggest ways to make spaces between lines and shapes. As tempos vary, the children can move their marking tools faster or slower. The repetition of sounds can suggest repetition of marks and lines to create patterns.

Try drawing with crayons when the paper is placed on a warming tray covered with aluminum foil. Because a warming tray is an electrical appliance that gets pretty warm, this activity is best done with one child at a time and under close adult supervision. Children will be fascinated as they observe the colors melting as they draw. The finished product is very translucent and similar to the encaustic process (painting with a mixture of color pigments and liquid wax) many adult artists use.



Add drawing materials to the writing center or the dramatic play area. Many children include drawings in their journal writing experiences. Children can create drawings on individual classroom items like the cover of their portfolio or their snack placemats. Children can use their drawings to create personal gifts and cards to family members. When drawing materials and experiences are available daily as a free choice option, children learn many things. As children begin to make more purposeful marks and drawings, they will connect their drawing to field trip experiences, a favorite story, an investigation of interest, a project, or daily classroom or home experiences. Children might draw items brought for show and tell, draw peers, draw objects in the classroom, such as simple displays (still life), toys, or natural object collections. They may illustrate a favorite book or create their own book. Drawing can also be done at the computer using a draw program or *HyperStudio*. Chapter 8 contains more ideas for integrating the arts in the curriculum.



Drawing at the Computer

Drawing at the computer provides a different approach to making marks. Most children have had experiences with crayons, markers and pencils, but a computer screen is a different medium. Several programs are available for drawing on the computer. *EA*Kids Art Center* and *Kid Pix* series (*Kid Pix, Kid Pix 2, Kid Pix Studio,* and *Kid Cuts*) are software programs that include a drawing function. Drawing on the computer can take a little getting used to for some children. Trying to figure out how to move the mouse to get the drawing tools to work also takes some practice. Included in this section of *ArtExpress* is a sample activity for drawing on a TouchWindow. A TouchWindow makes drawing on the computer easier for younger children, but isn't always necessary. Most children who have used a TouchWindow will reach a stage where they begin experimenting with the mouse.

Three different versions of *Kid Pix* are available: the original version, *Kid Pix 2,* and *Kid Pix Studio.* All three function the same way, the newer versions have more options. Children can draw with several tools and different colors. The drawbacks of this program are that the tool and color palettes are small, making it difficult for children to make choices.

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*EA*Kids Art Center* also has drawing program. One feature of this program is that the color and tool options are much larger and easier to access.

ArtSpace contains "The Studio"; a special place where children with disabilities who otherwise may not be able to create marks, may participate in a simulated drawing experience and recreate their favorite drawings from among the 113 that are available as choices. Drawings are accompanied by music. Each drawing may be printed in color.

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Sample Activity

Drawing with Crayons

Young children are active learners who learn through play. Drawing is play with line, color, placement, form, symbol, and image. The beginning of almost all works of art involves the use of line, one of the basic components of art. Lines are the foundations for shape and form. They can be straight, curvy, wavy, skinny or fat. Lines can be made with the specific purpose of conveying movement. Ideas for drawing are endless.

Teacher's Role

Teachers can make sure that basic art materials are readily available as a choice to support learning. Activities can be extended by providing additional materials and knowledge. Teachers can foster and stimulate interest by introducing art materials at other play centers, such as dramatic play. Crayons and other drawing tools can be used to change the dramatic play area into an artist's studio. Teachers can also foster children's perceptive and reflective knowledge and skills by engaging them in informal discussions about their work, by displaying art reproductions, by arranging trips to an art museum, by inviting adult artists to the classroom to demonstrate their work, and by making books with quality drawings available to children.

Outcomes

Children will track and manipulate concrete objects. They will acquire an interest in mark-making and drawing.

Children will observe peers and adults exploring drawing materials. They will increase fluency and flexibility with a visual art tool and develop fine motor skills.

Children will extend peer and adult interaction. They will inquire about and discover new techniques using crayons. They will increase mark-making, symbol drawing, and emergent writing.

Children will use skills with drawing tools to represent learning in many ways. They will apply skills with drawing tools to new situations.

Materials needed

- Large crayons (without the paper wrapper)
- A variety of paper, including newsprint, white drawing, or construction paper. Children should have the opportunity to draw with different sizes and textures of paper. Larger paper allows children maximum use of arm movements.

Procedure

Children develop symbols through hands-on experiences. Therefore, drawing and mark-making tools need to be available and accessible to children so they may become familiar with and explore the media. Invite children to explore materials with you. Model and demonstrate making marks on your paper. Encourage using soft and hard pressure with the crayon on the paper, using two crayons together, and using the point, side, and end of the crayon. As you make soft or hard marks on your paper, verbally describe what you are doing. Say, *When I rub real hard, the marks are strong and bright. When I move my arm around and around, the marks on the paper also go around and around.* Be available to facilitate and model interaction with materials, providing children with opportunities to explore, to compare their understanding of the world, and to apply the knowledge they have gained. Follow the child's lead and verbally describe the child's actions and resulting marks. *When you make your arm go up and down, your lines go up and down on the paper. Show me how you did that.* Encourage exploration with a variety of whole arm movements and wrist movements. Young children, especially those in the sensory motor stage, will not see the paper as being separate from the rest of their drawing environment. Drawing marks will often go off the paper. A washable drawing surface works best for easy cleaning after the drawing activity.

Many children enjoy using the point of the crayon to make dots. Do not be concerned about the noise level and the wear and tear on the crayons during this activity. This is a natural process of the learning cycle and making dots can be used to explore movement and sound. It may be beneficial to have the children change the beat or rhythm of their dot making. This can be done by saying, *Let's make our dots softly.* Other ways to explore dot making are, *Let's see what happens when we make our dots fast (slow, hard, or soft).*

Adaptations

Many adaptations are available if the child's grip is limited. You can tape together two or three crayons, use chubby stump crayons or sure-grip crayons. Other options include fitting the crayon with a type of adaptive grip device or using an adaptive grip device that straps to the child's hand.

Crayon stubs and broken pieces can be placed in separate sections of a muffin pan and melted in a warm oven to create large circular crayon chips. Children with limited grips can grasp the crayon chip with the entire hand and the classroom has a new variety of crayon shapes to use.

Drawing activities take two hands, one to hold the paper while the other uses the drawing tool. Masking tape at the corners of the paper can help keep it in place while drawing.

Try using sandpaper, felt sheets, or corrugated paper for the child with visual disabilities. These will provide texture and friction that will create sound as the child draws.

Dark colors (black, brown, purple, or blue) make high contrast marks on white paper. Using these colors can benefit children with visual disabilities.

Computer Software Applications

The computer can be used as a different type of drawing tool, with the children exploring each program's features. The following are computer software that includes draw programs for use with a TouchWindow, or a mouse.

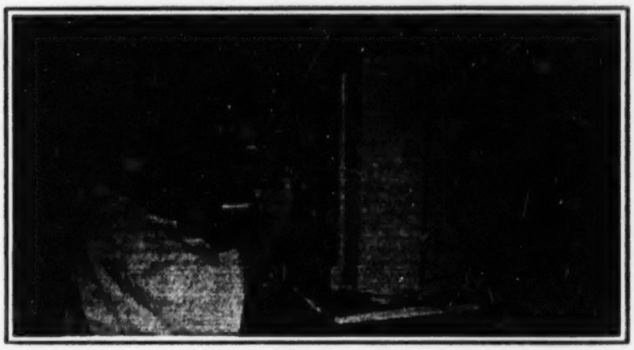
- Macintosh or PC compatible
    ArtSpace (Macintosh only)
    *EA*Kids Art Center*
    Kid Pix (series)

Sample Activity

Drawing on a TouchWindow

Children's scribbling and mark-making lead to later recognizable images and lay the foundations for literacy and communication. Assistive technology adaptations, such as computers, adaptive peripherals, software, and adaptive grip devices, make it possible for children with moderate to severe disabilities to participate in art activities.

Teacher's Role



Before beginning the activity, attach the TouchWindow to the front of the monitor. The monitor needs to be placed at the child's eye level and the keyboard can be moved aside to prevent distractions for the child. Attach the printer to the computer and turn on both machines. Boot the program and have the screen ready for the child to use. If necessary, model for the child how to make marks by moving your finger or the stylus across the window. Encourage the child to do the same. You may need to physically assist a hesitant child. The activity can be extended, by providing additional props and materials, to relate to the child's interests or a class project.

Outcomes

Children will explore with drawing materials. They will track and manipulate concrete objects and acquire an interest in mark-making and drawing.

Children will observe peers and adults exploring drawing on the computer. They will increase their fluency and flexibility with a visual art tool and develop fine motor skills.

Children will extend peer and adult interaction. They will explore and discover new drawing techniques using the computer. They will increase mark-making, symbol drawing, and emergent writing.

Children will use skills with computer drawing tools to represent learning in many ways. They will apply skills with computer drawing tools to new situations.

Materials needed

- Computer: Macintosh or PC compatible
- TouchWindow
- Draw Programs:
  Macintosh or PC Compatible
    *EA*Kids Art Center*
    Kid Pix (series)
- High Density computer disk
- Color printer

Procedure

The drawing program needs to be available and accessible to children so they become familiar with and explore the medium. Encourage children to explore the color and tool options available on the program and the TouchWindow. Invite the children to talk about their picture if they feel comfortable doing so. Follow the child's lead and verbally describe the child's actions and resulting marks. Talk about the width of the line, curves, and color. Save the image onto a disk. Print the images and display them in the classroom.

Adaptations

If a child can not physically reach the monitor with the TouchWindow, remove the TouchWindow from the monitor and place the TouchWindow in the child's lap or wheelchair tray. The monitor can also be placed on the floor, or any other position, so that it is at the child's eye level. An adaptive grip device can be attached to the stylus or the child's hand to facilitate holding the drawing tool.

If a child is blind or visually impaired, apply a tactile material or puffy paint to a clear transparency. Attach this to the TouchWindow. The child is creating a picture by touch and sound. Verbally describe the process as the child touches and hears the sounds when marks are being made. Some draw programs, like *Kid Pix*, have wonderful sound effects.

If a child has hearing disabilities, use sign language while modeling and demonstrating the process.

Related Activities

- Use *kidDraw* as an alternative peripheral.
- Connect computer drawing experiences to a field trip, child interest, or a project.
- Illustrate a favorite book or create your own books for the reading center.
- Use a 4 color heat-transfer ribbon in the ImageWriter II printer or iron-on transfer paper for other printers. Create a heat-transfer image and use for a child's t-shirt.
- Draw with crayons, markers, chalk, or paint.
- Draw to music.

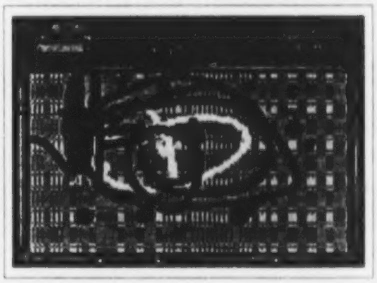
Sample Activity

Drawing in the *ArtSpace* Studio

"The Studio" is a program in the software *ArtSpace* where selected drawings can be recreated. Using an interactive multimedia approach combining sound, photographs, video, and graphics, "The Studio" is designed so children, including those with multiple disabilities, can experience simulated drawing and painting derived from art made by children, with and without disabilities, ranging in age from two to sixteen. Children can simulate the drawing of selected images by repeatedly pressing a switch or clicking the mouse. Children unable to hold a pencil, crayon, or paintbrush can use "The Studio" to recreate images targeted at their developmental level with switch presses. As children print the pictures the excitement of seeing the printed product prompts sharing and increased communication efforts. A single child or a group of children can take turns drawing in "The Studio."

Teacher's Role

Create an artist's environment by displaying reproductions of adult artists and originals of children's work. Position the monitor at the child's eye level. Prior to booting *ArtSpace*, select a switch setup. Connect the switch to a switch interface, Discover:Kenx, or IntelliKeys. Open the program *ArtSpace* and select "The Studio." Under "Settings" select one switch. Test the switch with the program before children come to the computer center to make sure it is activating properly. Arrange the computer center so several children can gather around the computer monitor. To limit distraction, cover the pieces of equipment not being used by children.



Outcomes

Children will discover that their actions cause certain events to happen. Children will learn that pressing the switch is causing the actions. They will attend to the task at hand; activating the switch while focusing on the actions displayed on the monitor.

Children will observe the actions on the screen and figure out that their physical actions control the actions on the screen. They will increase their attention span. Children will collect information about the different functions of the program in "The Studio."

Children will examine the features of "The Studio." They will propose explanations, such as *The picture has two more turns to do before it's finished.* Children will take turns making choices while activating the program.

Children will use the knowledge gained from this experience when looking at other art work. They will use the sequencing skills learned through "The Studio" in other learning situations. Children will develop increased knowledge of patterns and symbols.

Materials needed

- Macintosh LC computer, system 7.x., 4000K of free RAM memory
- CD-ROM Drive
- 14" monitor or larger
- *ArtSpace*
- Switch
- Switch interface, Discover:Kenx, or IntelliKeys
- Color Printer

Procedure

The child-created collection of images in "The Studio" are arranged in groups of three according to Kellogg's basic developmental stages. "The Studio" consists of a Studio Palette screen and a Studio Canvas screen. From the Studio Palette, children can select the most appealing drawing. The program then moves to the Studio Canvas where the drawing is revealed, a few segments at a time as music plays. On the bottom of the canvas frame are four markers to indicate the drawing's progress. An unfinished marker indicates that a segment or more of the drawing is unfinished. A finished marker is indicated when the drawing has been complete. When all segments are complete, selecting the Canvas causes the picture to be drawn in its entirety. Children can interact with elements of selected drawings or paintings as slowly or quickly as desired. Drawing these images is simulated by pressing the switch repeatedly until the complete image appears. Children will also enjoy revealing the "hidden picture" section by section.

Adaptations

Place monitor on the floor.
Use a TouchWindow to create simulated drawings.
Secure the switch in a switch holder to provide a stable position for activation.

Related Activities

- Draw using low-tech materials such as a Magna Doodle with adaptive magnetic drawing tools.
- Introduce children to other switch activated software programs such as *Switch Intro* or *New Frog & Fly*.

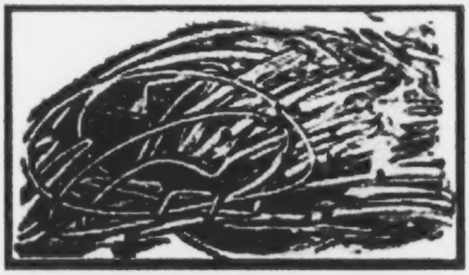
Painting

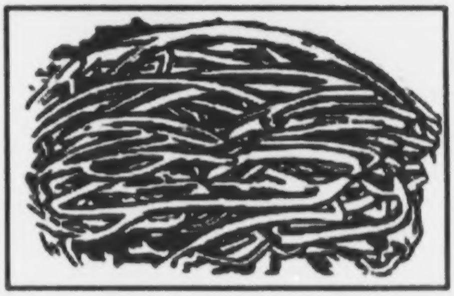
A man paints with his brains not with his hands.
Michelangelo

Through a variety of painting experiences, children build basic understandings of how the world of materials and symbol-making works and of their ability to affect that world. When painting is available to children as a daily choice and is integrated with other activities, early sensory experiences lead to later conceptual understandings and processes. The following two-dimensional painting media and activities use non-toxic materials and are developmentally appropriate for young children. See Chapter 9 for adaptations that can be used for young children who have a difficult time gripping and holding paint tools.

Finger Painting

Finger painting involves more than spreading and smearing paint. The child makes direct contact with the paint, since there is no brush to separate the artist from the paint. Finger painting can involve the whole hand and arm. Children can also paint with their feet. Many children enjoy touching the cool, smooth texture. The activity gives them an opportunity to get painty without fear of being scolded. As children finger paint, encourage them to use the front, palm, or back of their hand for wide strokes. Comment on the variety of lines made as the children work. Invite children to see what other lines they can make. Children can use the side of their hand for long, thin, and zigzag strokes, and fingertips for dabbing marks. They can use their thumbs or knuckles for round marks, fingernails for fine lines, and fists and wrists for massive marks. Some children may be reluctant to touch the paint with their hands. They may need time to observe other children and their teacher finger painting. Do not force children to finger paint.





When possible, standing at a table is the best position for controlling finger paint. Children can use their arm muscles freely, reach all over the paper, and have a better view of the marks they are making when they are standing. Finger painting can be done on commercial finger paint paper, which has a glossy surface and is expensive. Shiny shelf paper or slick cardboard can also be used. Children can also paint directly on any Formica table top, a tray, or cookie sheet. Lay a sheet of paper over the finger paint surface, rub gently, and lift. A print has now been made of the finger painting.

Place a teaspoon full of finger paint on the child's paper, one color at a time. As the second color is added and mixed with the first color, a new color is discovered. Try changing the color of the paper to see if this affects the color of the paint. Children might discover green as they rub yellow finger paint onto blue paper.

Finger Paint Recipes:

- Detergent Finger Paint
  Materials: Liquid dish washing detergent, powdered tempera paint, and water.
  Mix first two ingredients. Add water slowly until you get a pasty mixture. Easy to clean up.

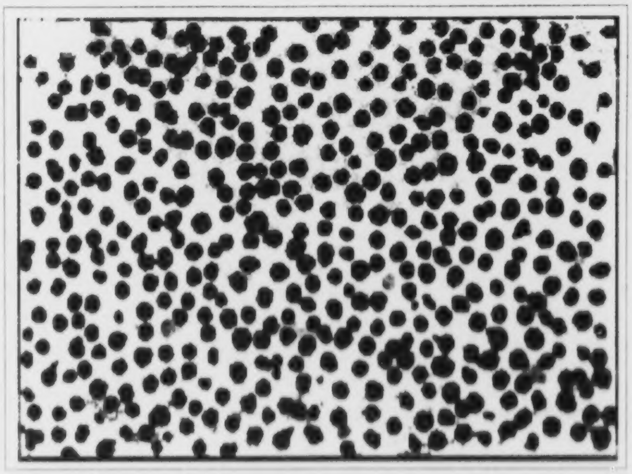
- Liquid Starch Finger Paint
  Materials: 1 cup liquid starch, 1 teaspoon tempera powder.
  Slowly add tempera to liquid starch until desired color and texture is reached.

Other media can be used instead of traditional finger paint. Try finger painting with non-mentholated shaving cream; it is thicker than most finger paints. Use shaving gel to watch the children's expressions as the gel transforms into cream. Add food coloring or small amounts of liquid or powdered tempera paint for variety. Textures such as sand, sawdust, glycerin, soap flakes, or salt can be added to the paint.

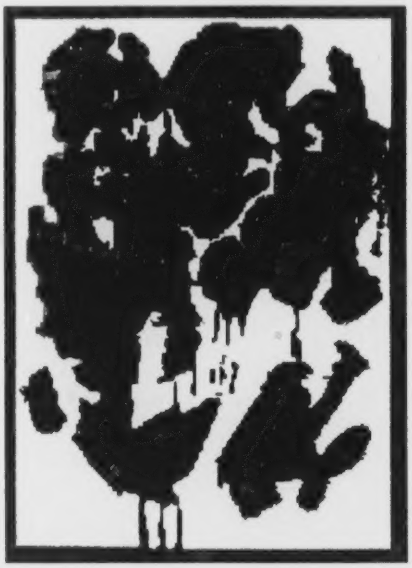
Tempera Painting

Tempera paints come in liquid, cake, and powder form. They are opaque and give a smooth, flat covering of intense color. Because they are water-soluble, adding water will dilute them and dull their intensity. Children can experience painting activities from many positions, standing, sitting, lying on the floor, kneeling, or squatting. They can use easels, table tops, or floors as painting surfaces. A wide variety of sizes, textures, and shapes of paper can be used for painting, but very young children need large paper and brushes with large handle grips.

Standing at an easel allows for whole-arm strokes and total body movement. Being positioned in a stander or wheelchair allows children to use the large muscles in their arms and shoulders. Easel painting provides opportunities for children to experiment and solve problems when paint drips. Verbalization and socialization will be encouraged when more than one easel is set up in the art area. Side-by-side easels work the best, but a two-, or three-sided easel will also work. Children can paint on a flat surface while seated at a table. This placement keeps paint from dripping and allows paint to build up on the paper. A table usually has room for two or more children to paint at the same time. Paint is more controllable, but arm and body movements are more restricted. Standing at a table allows for whole body movements and the control of painting on a flat surface. Painting on the floor also provides a flat surface. Children can paint from a kneeling, sprawled, or standing position. Some children may find these positions comfortable for short periods. Children also enjoy floor painting using small paint edgers and rollers attached to long handles. Arrange for drip painting activities. Place paper on the floor. Give children small containers of paint and brushes to drip one color at a time on the paper and observe paint splashes. Spatter painting is like drip painting but it is usually done outside.

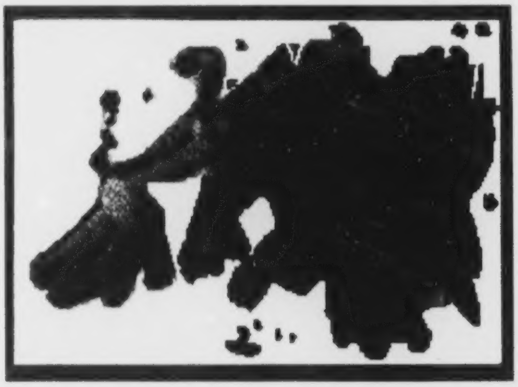


Plan paint mixing activities. Place small amounts of liquid tempera in a six cup muffin tin, ice cube trays, or the cup side of a Styrofoam egg carton. Provide a container of water for cleaning the brush between colors. In this way children can mix primary colors, plus white and black, using one brush. Children can also stir small amounts of powdered tempera with water or liquid starch. To avoid inhaling the powder pigments, pour liquid into a small container first. Then spoon in powder tempera and stir. Children can also manipulate and mix two or more colors inside a zippered plastic bag.



Try a foot painting experience. Place large paper on the floor. Put a small amount of liquid tempera in a shallow tray and place it on the floor beside the paper. Encourage children to take off their shoes and socks and roll up their pant legs. Assist them in stepping into the paint tray, then stepping onto the paper. Have a bucket of warm, soapy water and towels ready to wash painty feet and toes when finished. Tempera paint cleans up easily from a vinyl tile floor, but this activity also works well as an outside activity.

Arrange to use interesting objects as painting tools. Some might include cotton swabs, eyedroppers, cotton balls, empty thread spools, corks, craft sticks, toothbrushes, and cardboard tubing. Plan a bubble painting experience. Mix water, liquid soap, and food coloring in an unbreakable container. Add a straw and the child can blow colorful bubbles. The colorful bubbles make softly colored forms when they land on paper.



Paint with non-traditional paint materials like food coloring, powder pigment, or colored salt water. Try painting while blindfolded for a tactile experience. Make fold-overs by spooning paint on to paper, folding the paper, rubbing the paper, and opening to see the results. Make paint glitter by sprinkling salt onto it when wet. Plan a marble-roll painting activity. Place paper into a shallow box. With a spoon or fingers, dip marbles into a small container of paint until they are coated. Drop the "painty" marbles onto the paper and tip or shake the box so the "painty" marbles will roll and hop across the paper. Dip marbles into more than one color of paint and watch as the colors mix on the paper. Try moving paint around on the paper by blowing it with a straw. Use string or pieces of yarn as a paint tool. Dip the string or yarn in paint, then apply in various ways to paper.

Play music in the paint area. Encourage the children to vary the lines, colors, and forms on their papers as they listen to the differing beats, rhythms, and tempos of "The Four Seasons" by Vivaldi.

Plan a group mural using colored tissue paper squares dipped in water. Dip the tissue paper into water or wet the paper using spray bottles filled with water. When children rub the colored tissue pieces onto the mural paper, the colors will bleed, creating beautiful, colorful marks.

Arrange for the children to water paint on the sidewalk outside. Also try water paint on any other interesting surface that will show high contrast when wet, such as brick, wood, and playground equipment. Take the classroom easels outside or place a commercial hanging easel on a fence. Hang a sheet or other large piece of cotton fabric on a fence or tape it to an outside wall. Paint with tempera paint or food coloring mixed with water. Apply paint with a variety of brushes or spray on with water-down liquid tempera in small spray bottles.

Household utensils make great painting tools. Try sponges with handles, spiral egg beaters, mixers, bottle brushes, pastry brushes, feather dusters, and small paint rollers. Use non-traditional brushes for painting, such as sticks, pine needles, string or yarn, feathers, rope, rags, dish scrapers, toothpicks, cotton swabs, toothbrushes, leaves, plastic squeeze bottles, or pump spray bottles. Place paint in other types of containers to hold small amounts of paint such as muffin tins, frozen juice cans, yogurt tubs, Styrofoam egg cartons, margarine tubs, or saucers.

Printmaking

Making prints introduces children to creating a reverse image. This is a different concept from more direct visual art experiences. With printmaking projects, children discover that the design is reversed when printed. Children can use a wide variety of objects to make a print. Some of these might include cookie cutters, kitchen utensils, sponges, spools, plastic toys, wood scraps, or objects in nature. Take a walk with the children and encourage them to collect interesting nature artifacts in a small paper bag. Dandelions are a favorite in the spring. Back in the classroom, children can dip the flower end of a dandelion into yellow paint and stamp the print onto green construction paper.

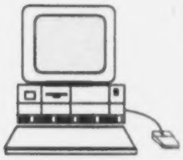
The best paint to use for printing projects is liquid tempera. Apply paint by pressing the printer tool (the dandelion) into a paint pad, or by dipping it into a shallow container of paint. Styrofoam trays make good containers for this purpose. To create a paint pad, put several layers of damp paper towels in a flat container and pour a small amount of tempera paint over it. Let the towels stand for a few minutes to soak up the paint. Dab the printing object onto the print pad and then press it on the piece of paper to make the print. Use light paint colors on dark paper and dark paint colors on light paper.

Printing with an ear of field corn is an example of roller printing. Other rollers might include a cardboard paper towel roll with shapes cut out or glued onto it, a rolling pin or a brayer (a printmaker's ink roller) with raised designs glued onto it, or a tin can with yarn or string glued to it.

Make monoprints when children finger paint. Lay paper directly on top of the painting, rub and carefully lift. Use toy cars and trucks to create tire track prints or blocks to create shape prints. In addition to these materials, original designs can be cut or scratched into a soft surface. Emboss Styrofoam trays with a pencil or large nail. After drawing with a pencil or nail onto the Styrofoam tray, ink the tray with a roller, brayer, or paint brush, lay paper onto the inked surface, rub, and lift.

Cut sponges into various shapes and use as paint tools to dip into tempera paint and stamp on paper. Children can arrange sponge painted shapes to form a picture or repeat a sequence or pattern with the printed shapes.

Create a simple screen frame. Children can place torn or cut construction paper shapes on a piece of paper under the screen frame. Next, they can dip a toothbrush into tempera paint and rub onto the screen. The paint will spatter onto the paper under the frame. When the shapes are lifted from the paper, the print of their design will be on their paper.



Painting at the Computer

Invite children to paint at the computer. It's fun and children will enjoy some surprises. Many of the same software programs that children can use to draw at the computer also have paint brush options.

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The *Kid Pix* series (*Kid Pix, Kid Pix 2,* and *Kid Pix Studio*) all have a "Wacky Brush" icon that has a variety of paint options depending on the the tool option selected. Most options paint in the current color selected, but some are multi-colored. Some of the tool options include "Leaky Pen," "Zig-Zag," "Dots," "Bubbly," "Echoes," "Spray Paint," "Pine Needles," "3-D," "Kaleidoscope," "Drippy Paint," "Swirl Paint," "Splatter Paint," and "Trees." Try changing the image by using the tool and pressing the Option, Control, Shift, or Command Keys.

I saw a caterpillar
in my flower
garden.

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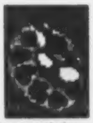
Children can write, illustrate, and publish their creations all at the same time with *The Amazing Writing Machine*. Everything is done on one screen. Tools, tool options, and menus are available with a click of the mouse. The "Project Picker" appears when the program begins. *The Amazing Writing Machine* projects include "Essay," "Letter," "Story," and "Journal." Each environment comes with its own set of tool options including text tools, graphic area, graphic tools, color palette, and other tool options. To paint, move the pointer to the indicated graphic area and begin. The cursor automatically becomes a graphic tool. Children can then use the brush tool to paint and illustrate their writing projects.



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Simulated painting can be created in "The Studio" section of *ArtSpace*. *ArtSpace* was designed to accommodate adaptive peripherals, such as a TouchWindow or a switch, to encourage children with multiple disabilities to participate in expressive arts activities. "The Studio" section contains choices related to image selection, prompts, and printing.

Sample Activity

Finger Painting

Finger painting is a good beginning to the painting experience. It offers children sensory and tactile experiences. Painting is fun and creative. Children plan and problem solve when they paint. Children make decisions about what to paint, what colors to use, and where to place marks when working on their own. Painting experiences enable children to express a wide range of feelings and emotions. Painting is a soothing and calming activity. Children communicate non-verbally about objects, ideas, people, places, experiences, and feelings when they paint. When an adult or peer is nearby, the child has the opportunity to communicate (using words or gestures) while painting or after the painting is complete. Painting also gives children the opportunity to experience success.

Teacher's Role

Make sure all materials (paint, paper, smocks, and a water source) are located in one area to avoid messes and unnecessary steps. Arrange materials so children can be as independent as possible. If children are able to put on smocks by themselves, let them, or let them help each other put on smocks. Children can also get their own paper.

If children are unfamiliar with finger paint, they may hesitate to touch the paint. The teacher can model the activity by beginning with one finger. Talk about the feel of the paint. *Is it slick, cool, smooth, gritty?* Point out the lines being made. *Are they long, short, curved, wide?* As children become more comfortable with the paint, they will use more fingers, the whole hand, and both hands.

Outcomes

Children will touch the paint and explore how it feels. They will increase hand-eye coordination and track marks being made. They will develop positive social interactions and communication with adults and peers.

Children will observe peers and adults exploring different ways to create lines. They will develop fine motor skills while increasing the number and types of marks made.

Children will increase mark-making, symbol drawing, and emergent writing. They will focus attention on discovering what happens when different techniques are used. They will relate to prior experiences of painting and color blending and will compare similarities and differences.

Children will apply knowledge of symbol making to other media. They will carry over knowledge of color mixing, creating new colors as they work with other media, including easel painting, drawing with markers and crayons, and tissue paper collage.

Materials needed

- A Formica table top or large tray
- Various colors of finger or tempera paint (adding liquid soap to paint aids in clean-up)
- Large sheets of medium to heavy drawing paper
- Paint shirts
- Access to soap and water

Be aware of children's, teachers', and parents' attitudes toward messy play. An old extra set of clothes should be on hand for children to wear, since some paint shirts and smocks are not adequate for this activity. When classes have children who need one-on-one attention, shaving cream may work better. A bucket of water or a sink nearby is needed. Good quality finger paint is smooth and creamy, fresh smelling, and free from mold. It will flatten out and flow easily across the paper.

Procedure

Set up table or trays so that two children at a time can work close together. Assist children with putting on a paint shirt (if needed), and push long sleeves up above the elbows. Give children a choice of paint colors. Spoon or pour the paint onto the tray or directly onto the table. Allow plenty of time for children to explore the paint. Model and encourage verbalizations.

Adaptations

If children have visual impairments, add texture to the paint such as sawdust, or coffee grounds.

If children are tactilely defensive, encourage observation of others, while reassuring them that no one will be made to actively participate. Encourage verbalizations.

If children have limited motor movement in their hands, use their most reliable movement, whether it be the side of the fist, palm of the hand, or foot. Provide plenty of work space so that the child who has some uncontrollable movements can work comfortably, without bumping others.

Computer Software Applications

The computer can be used as a different type of painting tool, with the children exploring each program's features. Use computer software that includes paint programs for use with a TouchWindow, mouse, or a switch with Ke:nx:

- Macintosh or PC Compatible
  ArtSpace (Macintosh only)
  *EA*Kids Art Center*
  Kid Pix (series)

Sample Activity

Easel Painting

Paint is a good medium for young children to explore blending and mixing colors. Some children prefer to use only one color, while other children want to mix all available colors. Some children like to cover the entire paper with paint while others paint images, leaving a great deal of paper showing.

Teacher's Role

The teacher needs to see that all supplies are readily accessible. Tempera paints should be offered daily. Brushes and paints must be in good condition! A thick consistency is better to reduce drips. The colors made available can vary with ongoing projects and activities. Teachers can talk about the colors which have been blended or mixed, the lines on the paper, the movement of the arms and wrists, or many other topics depending on the individual child. Some teachers have found it beneficial to place different colors on each side of the easel. Children then negotiate for different colors. This promotes problem solving and cooperation.

Outcomes

Children will acquire an interest in painting. They will attend to and participate in painting activities.

Children will observe others engaged in painting activities. They will focus on the activity and the changes taking place. They will explore and discover changes in colors when mixed together. They will gain more control of their brush strokes.

Children will continue to investigate the properties of paint and color combinations. They will generalize assumptions of mixing colors to other areas. They will develop their own repertoire of symbols.

Children will apply their knowledge of painting to other curriculum areas. For example, in science, children will know how to mix paint to create new colors, or how the consistency of the paint affects dripping. They will apply concepts about color, texture, line, and space to new situations.

Materials needed

- Easels (free standing, wall mounted, or table top)
- Brushes that fit a child's hand comfortably (one for each color of paint used)
- Paint containers (commercial type with lids, such as empty yogurt or juice containers)
- Tempera or finger paint
- Paper in a variety of sizes, colors, and textures
- Masking tape or clips for attaching paper to the easel
- Paint smocks
- Clean-up materials (bucket of soapy water, sponges, paper towels)
- Drying area or drying rack for finished products
- Large plastic sheet for painting in a carpeted area or for easier clean-up (a plastic table cloth or a shower curtain works well)

Procedure

Provide enough space for children to work comfortably. To encourage socialization and to reduce the amount of time children have to wait for a turn, consider including at least two easels in your painting area. Locate the painting area close to a water supply. If this is not possible, buckets of water can be brought to the painting area and used to wash brushes as well as hands. Brushes, paint, paper, and smocks can all be stored near the art area. Invite children to paint. The child can try placing the paper onto the easel and taking the finished product to the drying area. Staff needs to be available to model and facilitate the activity.

Adaptations

Provide dabber bottles or roller bottle containers filled with washable tempera paint. Bingo Halls may have extra bottles. Homemade dabber paints can be made out of empty shoe polish bottles that have been cleaned thoroughly and filled with tempera paint. Dabbers work best on a horizontal, table top surface.

Sponge paint brushes, already loaded with dry tempera paint, can be dipped in water and used. Adaptive devices or adaptive extensions can be attached to the paint brushes. Tip-proof containers and a tray, to hold paint containers stable, can be used. A table top easel may work for children in a wheelchair.

Computer Software Applications

Software that includes a paint program and can be used with touch tablets, such as a TouchWindow, IntelliKeys, or Key Largo.

- Macintosh or PC compatible
  - *ArtSpace* (Macintosh only)
  - *EA*Kids Art Center*
  - *Kid Pix* (series)

Three-Dimensional Art

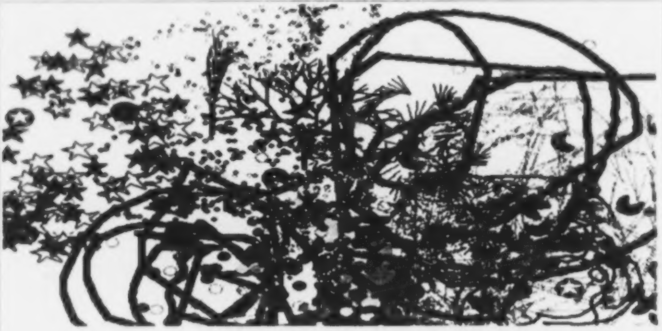
From the very beginning of their educations, children should experience the joy of discovery.
Alfred North Whitehead

Forming and constructing with three-dimensional materials to make something new is sculpture. Young children sometimes begin by playing with mud, sand, and water making mud pies or forming castles. Plan activities and projects around children's natural interests. Materials that can be easily changed are most appealing and appropriate for very young children. Adaptive devices can be added to tools and materials for young children who have a difficult time gripping and holding. Children with severe disabilities can also participate in three-dimensional art with the use of technology. More information about adapting materials and activities can be found in Chapter 9.

Collage

In creating collages, the emphasis is on free expression and exploration of the tools and materials. Tools and materials for fastening things together and taking them apart might include scissors, yarn, shoestrings, string, ribbon, elastic, pipe cleaners, clear tape, masking tape, a heavy-duty tape dispenser, white glue, glue sticks, paste, paper punches, and a heavy-duty stapler and staples. Young children with limited motor skills can participate in collage activities using a reverse Con-Tact paper board or sticky board, helping hand scissors or adaptive scissors. When the teacher sits at a table with a group, she can facilitate, model, or suggest trying the following.

- Tearing or cutting paper and gluing it onto construction paper. Vary the color, size, and texture of paper.
- Using tissue paper and brushing it with watered-down glue or liquid starch.
- Combining construction paper and glue collages with crayon and marker drawings.
- Creating a collage from found object materials like Styrofoam trays, packing peanuts, buttons, or fabric.
- Making a collage with objects found in nature such as leaves, shells, sticks, and rocks.



Child's computer collage with varied textures

Increased gluing and pasting skills provide young children with another way to enhance their constructive and creative abilities. Concern about using a little dab or too much glue means very little to children who do not understand these concepts. Children will develop these concepts faster through experiences with real materials than through verbal instructions. Support these developing skills by allowing children time and space to experiment with gluing and other attaching materials. When a child is more interested in observing glue falling to the paper and spreading in an ever increasing puddle than actually using the glue to attach collage materials, the teacher can value and support this developmental stage and process. Small glue squeeze bottles are easier to handle and can be refilled as needed. Assist the learning process by encouraging young children to talk, reflect, and problem solve about what they are doing.

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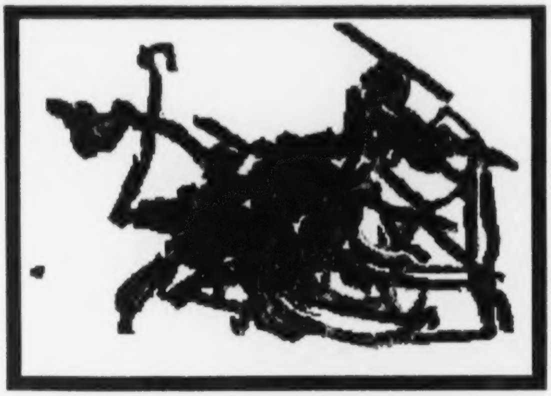
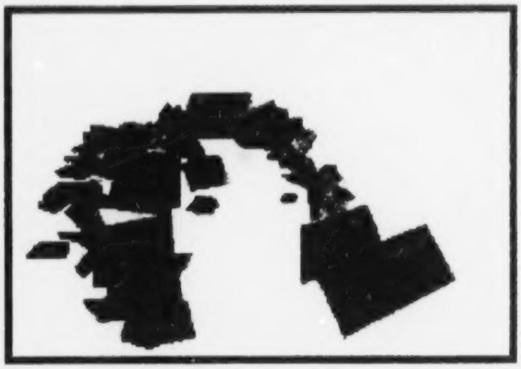
The following are examples of children's tissue paper and found object collages. Additional examples of collages and videos of children making collages may be found in the "Children's Museum" of *ArtSpace.*



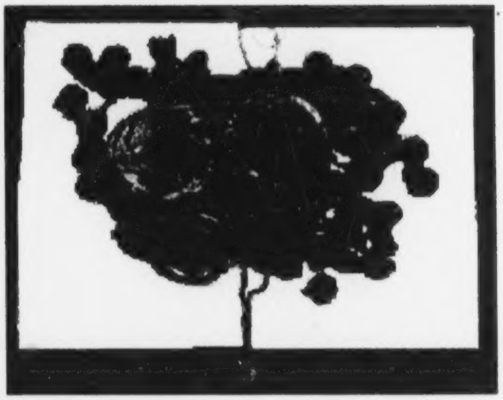
Colored tissue paper strips with a Greek cross in the upper left corner



Colored tissue paper squares, some scrunched, and forming a rainbow

Colored tissue paper squares stacked vertically

Colored tissue paper strips, some going off the page



Colored wagon wheel macaroni, yarn, buttons, and small jar lids

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Paper

Many different types of paper can be used for all visual art projects. Varying the paper encourages children's awareness of differences in texture, absorbency, permanency, transparency, sturdiness, and appeal. Also vary the shapes, sizes, and colors of paper. Each new type of paper used reinforces sensory learning and facilitates free expression, exploration, and experimentation. Children with limited motor movement sometimes have problems holding their paper with one hand as they attach objects to the paper with the other hand. Placing masking tape at the corners of the paper to hold it to the table, floor, or wheelchair tray is very useful.

Many kinds of paper that are free or inexpensive can be used for art work, such as end rolls of newsprint, newspapers, wallpaper, print shop end rolls, magazines and catalogs, wrapping paper, boxes, or shopping bags. Some businesses recycle computer paper that has only been used on one side. This is an excellent resource for drawing paper.

Types of Paper

- Newsprint
- Print shop paper
- Butcher paper
- White drawing paper
- Perforated edge of computer paper
- Gift wrap
- Envelopes
- Paper towels
- Lined paper
- Waxed paper
- Manila paper
- Cardboard
- Tissue paper
- Coffee filters
- Brown paper bags
- Paper plates
- Stationery
- Crepe paper
- Napkins
- Computer paper
- Poster paper
- Wallpaper
- Corrugated board
- Colored construction paper
- Graph paper
- Aluminum foil
- Wall paper samples
- Con-Tact paper scraps
- Used greeting cards
- Old magazines/catalogs
- Finger paint paper

Ideas with Paper

Put all paper scraps accumulated during cutting activities into scrap boxes. Scraps can be saved for future gluing, pasting, and cutting experiences. Create a cut and glue table in the classroom; vary the paper color, shapes, and textures. Have several small individual glue containers available. Encourage tearing paper or add scissors for cutting exploration.

Vary the shapes, size, and color of paper at the easel. Cut odd-shaped holes in easel or drawing paper (negative space paper) and place at the table or easel without comment and observe the children's responses. Some children may ignore the hole while others may incorporate the empty space into their drawing or painting.

Put large sheets of paper on the floor. Make it large enough for several children to work cooperatively and socialize. Add drawing or painting tools. Take paper outside. Hang or tape it on a fence or attach it to a wall. Create a group mural using drawing, painting, or collage materials.

Create collages with tissue paper. Brush liquid starch or watered-down school glue to make the tissue paper stick to construction paper. Curl strips of construction paper by rolling them around crayons or pencils. This can also be done by scoring or by pulling it against the blade of scissors. Make chains, rings, and loops from paper strips. Attach the ends with glue or staple. Paper strips also make great crowns, headbands and bracelets.

Collect a variety of different paper punches and add to the collage supplies. Prick holes in the paper with a toothpick or pencil. Place it against a contrasting color of paper to create an interesting background.

Fold paper to make cone or cylinder shapes. Other ways to explore with paper include: tearing, cutting, gluing, stapling, folding, looping, pricking, slitting, curling, pleating, braiding, fringing, punching, taping, and twisting.

Paper Fasteners

Plan activities that include various ways to fasten paper to create constructions and collages. Allow enough time for exploring and learning the skills of pasting, gluing, taping, and attaching materials. Children need time to familiarize themselves with the fastening material. Some children will spend a long time in the pleasurable activity of smearing paste or watching glue pour and puddle on the paper or table. When children smear and explore with paste in early experiences, they will gain experience with the materials and later will be able to handle the bits and pieces of collage materials, and to place them in a deliberate order on the collage surface. Listed below are some fastening materials to try.

Pastes

Library paste is a good for paste for young children. Make sure that it is moist, smooth, and not cracked. Wheat paste is inexpensive. It can be purchased in powder form and mixed later with water as needed. Wheat paste is very sticky. Purchase only the brands that are clearly marked non-toxic. Homemade flour paste works well. To make it, mix 1/2 cup of flour with 2/3 cup of water and stir until it has a creamy consistency. Add a few drops of peppermint or oil of wintergreen as a preservative. Cornstarch paste is made by mixing 3/4 cup of water, 2 tablespoons light Karo syrup, and one teaspoon white vinegar together in a saucepan and bring the mixture to a full boil. Mix 1/2 cup of cornstarch with 3/4 cup of water and add slowly to the boiled mixture. Stir constantly to avoid lumps. Add a few drops of oil of wintergreen to the mixture; cover and let stand overnight before use.

Glues

White glue is a good adhesive. It is non-toxic and dries clear. Use it directly out of its squeeze dispenser bottle, or thin it with water in a small container and use it with a brush over large surfaces. It is available in bottles as small as 2 ounces that can be refilled with glue purchased in 1 gallon containers. Roll-on glue and glue stick containers enable even the youngest child to use them. Some have foam applicators and others have roller ball applicators. They are non-toxic and dry quickly to a clear finish. Liquid starch is a good adhesive to use with very thin materials such as tissue paper. It can be poured into shallow containers and applied with a brush. Mucilage in a rubber-tipped bottle is good to use occasionally to provide another kind of gluing experience.

Tapes

Masking tape is best for all around use. It adheres well and sticks to most surfaces. It is available not only in the traditional buff color but also in a variety of colors. Cellophane tape, in a large or small dispenser, is clear and easy to use. It also provides good exercise for small muscles. Gummed craft tape is a paper tape that has to be moistened to use. It is not easy for a child to use but offers a different experience. Duct tape is a gummed tape available in both cloth and plastic. It comes in a variety of colors and can be used for mending book bindings and decorating.

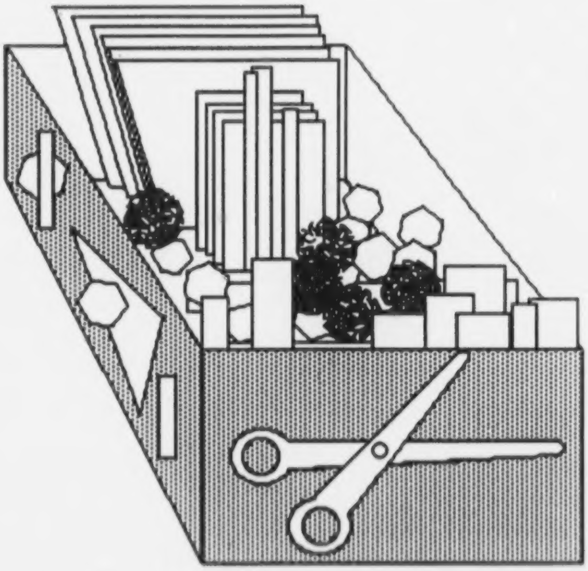
Other Fastening Devices

Staplers, paper punches, and paper fasteners are all good for attaching materials used in making constructions and collages. Experience in using these tools also strengthens children's small muscle and manipulation skills.

Spontaneous Cutting

Give children lots of opportunities to engage in spontaneous cutting. For very young children, this can involve opportunities to snip without the threat of judgment or criteria for a product. Take into account the developmental level of the individual children in your classroom when planning for activities that involve cutting. If you ask all children in the class to engage in the same activity, such as cutting out a circle or on a straight line, you may be setting many children up for failure and frustration. You may also be discouraging creativity and problem solving in children who have already mastered the skill.

Age and developmentally appropriate scissors help children achieve their creative goals safely and with the least amount of frustration. Children can begin by tearing paper. A few blunt-pointed scissors can be available for independent use. Introducing kitchen tongs can help children feel the manipulation of the opening and closing motion of cutting. These can be available in the dramatic play area to practice the finger movements of squeeze and release. Several types of scissors are on the market which claim to only cut paper. You may want to try some of these and see if they work for your classroom. Training scissors with extra finger holes or "loop-handled" scissors with no finger holes are also considered appropriate for children this age. See Chapter 9 for drawings of the different types of scissors available.



Choose metal rather than plastic scissors because metal provides a better cutting surface and keep all scissors in good repair. A supply of children's left-handed scissors should be available for children who show left dominance. Some scissors can be used with either hand. Children's pointed scissors are available and can be used by more experienced snippers and cutters. Store scissors on a commercial rack or in a small container on the child-accessible art supply shelf. Keep all scissors in good working order by teacher-testing them frequently.

Children often want to take their pile of snips from spontaneous cutting home. Make simple envelopes from scrap paper or use junk mail envelopes. A simple note to families can communicate why spontaneous cutting is an important and satisfying activity for young children.

Cutting Boxes

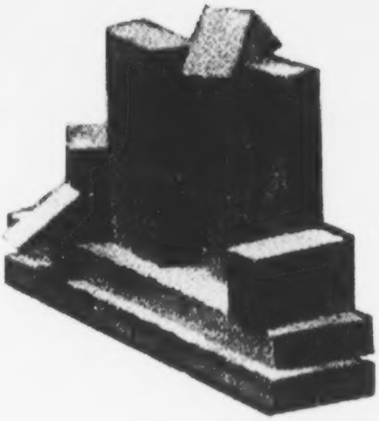
Place a box filled with interesting things to cut in your art center, including straws, various kinds (sizes, weights, and textures) of paper, ribbon, yarn, and wrapping paper. Ask families to help you by adding to the supply. Consider the ability levels of your class; for example, don't provide cardboard pieces for children with little muscle strength. Encourage creativity and extend this activity when children are ready. When children have access to glue, tape, and staplers, the bits and pieces can develop into interesting works of art.

The Cutting Pool

Put construction paper scraps in a small plastic wading pool placed on the floor. A large plastic bin or container also works well. Children can sit along the side of the container; or as some classrooms have done, sit right in the pool surrounded by a rainbow of colors and textures. Very young children can be invited to tear larger pieces into wonderful small and bumpy shapes. Supply scissors and encourage spontaneous snipping. Adults can model and extend this play. Encourage children to talk about colors, textures, and shapes. Ask open-ended questions about the activity that will support their skills and interests. Imagination and a sense of fun will make "pool snipping" an enjoyable activity for all. The exploration of the materials can be followed up with choosing pieces of collage material for creating a collage.

Blocks

Block construction offers many expressive and developmental opportunities. To build, change, and build again develops a sense of autonomy and mastery. Blocks are easily adaptable to children's individual developmental levels, learning styles, and interests. Playing with blocks can help children with disabilities acquire the same skills and concepts as other children. Interlocking blocks and blocks with Velcro strips attached can be used by children with limited motor skills. By observing children's play with blocks, adapting the environment, and facilitating, the teacher can make block play accessible and enjoyable for all children.



Block play builds conceptual thinking and is easily adaptable to children's developmental levels. Whether children are introduced to blocks at the age of two or at the age of six, they seem to pass through predictable developmental stages (Hirsch, 1984). Older children go through the early stages more quickly and arrive at a stage more appropriate for their age. The following is a list of the types of available commercial blocks.

- Unit Blocks
- Large Hollow Plastic Blocks
- Cardboard Blocks
- Vinyl-Covered Foam Blocks
- Table Blocks
- Parquetry Blocks
- Large Hollow Wooden Blocks
- Interlocking Blocks
- Waffle Blocks
- LEGO
- Counting Cubes

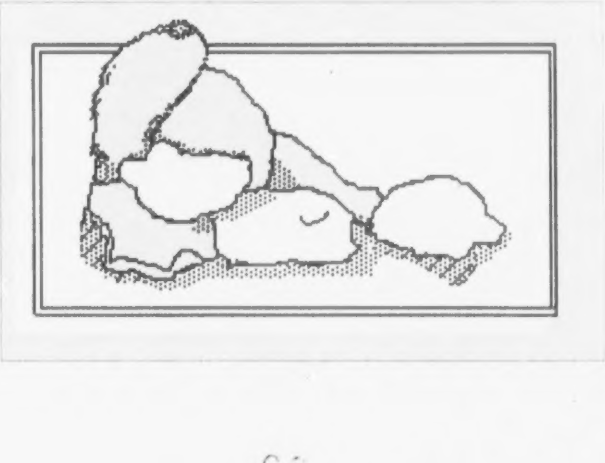
Create your own blocks from diaper boxes or milk cartons (Church & Miller, 1990). Fill an empty box with wadded up or shredded paper, tape it closed, or place another box over the open end to complete the block. Involve the children in the block making process. They will delight in stuffing boxes with wadded or shredded paper. Cover with brightly colored Con-Tact paper or cover the surfaces of the blocks with white or colored construction paper. Invite the children to draw and decorate the surfaces, then laminate with clear Con-Tact paper. Children will enjoy building with blocks they helped create.

Sculpture

Teachers can vary sculpture tools and materials to facilitate exploration, experimentation and free expression. Some materials for making three-dimensional art are: play dough, clay, modeling or molding tools (rolling pins, cookie cutters, plastic knives, a hamburger or tortilla press, a play dough press, wooden dowels), beeswax, plaster of Paris, buttons, straws, egg cartons, small boxes, ice cream tubs, empty thread spools, pipe cleaners, clothes pins, bits of wood, cardboard tubes, paper bags, cloth, felt, rug and vinyl scraps, feathers, foam packing pieces, cotton balls, old stockings or socks, and shoe boxes.

Modeling Materials

Moist clay is a very appropriate material for young children. It has a responsive quality and is pleasant for some children to feel when squeezed, rolled, punched, poked, or cut. Clay will stay fresh and in good condition if it is stored in an airtight container. Support children's learning by giving them enough clay, plenty of room, and time to explore the material. Play dough, Model Magic, or plasticene can be substituted for clay. Play dough can be purchased commercially or made by the children in the classroom. It is soft,



pliable, non-toxic, and easy to store in airtight containers. Model Magic is white, very soft, and pliable. It dries hard over-night and can be painted. Plasticene is a synthetic modeling substance that offers the advantage of not drying out when left uncovered. The disadvantage of plasticene is that it takes strong hand muscles and much manipulation to make it pliable.

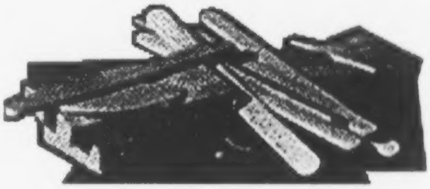
Work on washable surfaces. Have clay boards for each child, so works in progress can be moved to a safe area at clean-up time. Keep a small pan of water on the clay table so children can moisten their fingers to smooth cracks in the clay and keep works in progress fresh. Works in progress will need to be wrapped in a damp cloth and covered with plastic when children want to work on the same clay piece over several days. When children indicate that a work is complete, save it by leaving it exposed to the air to dry. The child may want to paint the sculpture when finished.

Use observation to determine the developmental level of each child. Muscle control is fostered as children pound, twist, roll, flatten, pinch, or cut the clay. Follow the child's lead and provide support as needed. Model by manipulating the clay and talking about what you are doing, *I'm pulling my clay apart.* Talk about what the child is doing, *Adam made two balls with red clay.* Encourage children to talk about what they are doing, *How did you make your piece of clay so long?* Support interactions and conversations between peers, and encourage dramatic play and representation with the clay.

Tools can support and extend play with clay, but too many tools or toys may overwhelm children and interfere with exploration. Keep tools on the shelf where the clay is stored and use sparingly. Clay does provide a good media for snipping and slicing practice with scissors and plastic knives.

Construction

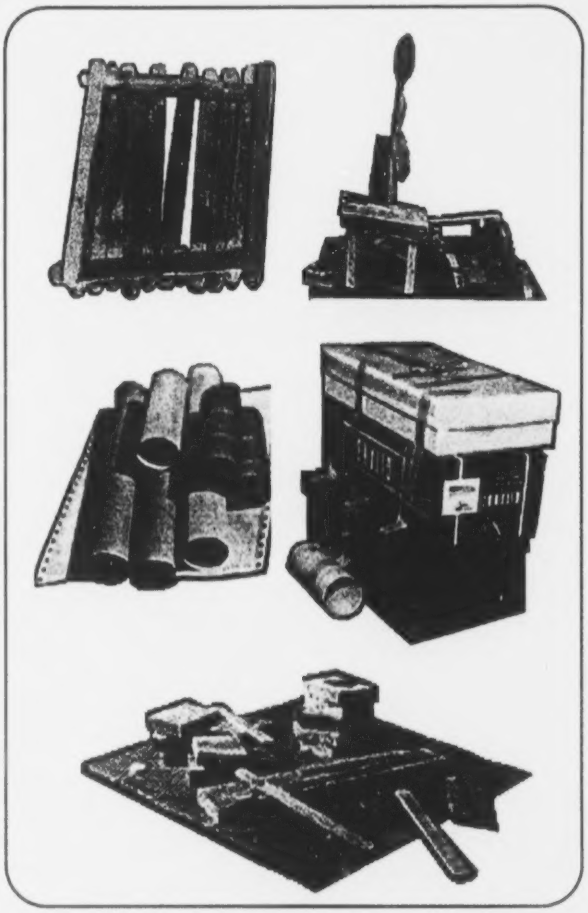
Construction is a three-dimensional art that may or may not resemble anything. Most young children know that objects are composed of parts and pieces. Constructions can be made with many types of materials, including folded or rolled construction paper, heavy cardboard, paper plates, glue, or masking tape. Found object constructions can be created using cardboard boxes, cardboard tubes, spools, plastic bottle caps, pipe cleaners, or Styrofoam trays. Try making natural object constructions with pine cones, leaves, acorns, bark, sticks, or twigs. Create sculpture with wood scraps and glue. Attach pieces with glue, tape, or staplers. Creations can be painted when finished.



The process of constructing and forming can also result in a functional product. Children may make clay food or bowls for use in the dramatic play area. They can create toys or gifts from wood or puppets and masks from other materials that can be used for other activities, such as music and movement.

> *When cardboard construction materials were introduced, Chelsey busied herself over several days making vases and filling them with paper flowers. After drawing on them she placed her beautiful creations around the classroom. Chelsey had recently been a flower girl in a wedding. Day after day, she created*

3-dimensional flowers and vases to reenact wedding play. Chelsey also involved one of her friends in this activity.



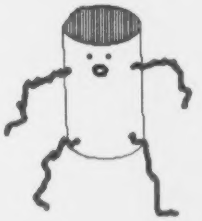
As children are constructing, the shape of a container might suggest the shapes of people, animals, vehicles, buildings, machines, or other objects. Children can use masking tape, glue, or staples to hold their group of boxes together. Look for boxes, containers, and bottles with unusual shapes such as oatmeal boxes, salt boxes, small gift boxes, cereal boxes, egg cartons, film cartridges, cardboard tubes, or berry baskets. Two preschool boys worked cooperatively for over a half hour constructing. One boy assembled a shoe box and a gift box and held it while the other boy tore masking tape and attached the pieces. Next, the two boys switched jobs. Cardboard tubes and film canisters were taped down. The boys verbally negotiated, cooperated, and problem solved throughout the construction process. They then decided to take turns taking the construction home. *I'm going to hold it on my lap on the bus*, one boy said.

Thin copper wire, florist's aluminum wire, pipe cleaners, or Wikki Stix can be used for sculpting. Children can enjoy twisting and turning the wire into many interconnected shapes and forms. The finished sculpture can be glued, stapled, or nailed to a small piece of wood that can serve as a base.

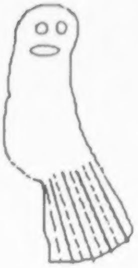
Papier Mâché means "chewed paper" in French and refers to the process of building up layers of paper that has been torn, wadded, and molded (but not chewed) to make a three-dimensional form. Young children can do an individual or group papier mâché project. Try creating a solid base or form for the project, like a plastic milk jug or detergent bottle. The base could also be made from a paper bag filled with wads of newspaper and shaped into a general form. Children can help tear paper into long strips. The torn paper can be dipped in an adhesive mixture of white glue and water. Ideally, the strips should be smooth and overlapping. The layers should go on in different directions to provide strength. Smooth wrinkles or bubbles by rubbing gently. Apply only two or three layers at a time before letting it dry. Set it onto wax paper to dry thoroughly before painting. After the children have painted their papier mâché construction with tempera paint, seal it by spraying with a fixative or inexpensive hair spray. This activity should be conducted over a series of days. Remember, this is a multi-step process and many children may be only interested in the exploration of the materials, rather the steps in the process or the product.

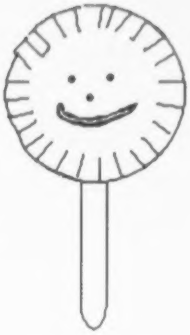
Puppets and Masks

Children enjoy creating puppets and masks as much as they enjoy using them for dramatic play. Puppets and masks also provide opportunities for problem solving and exploring facial features and expressions. Ways to make puppets and masks are limited only by the teacher's resources and imagination.

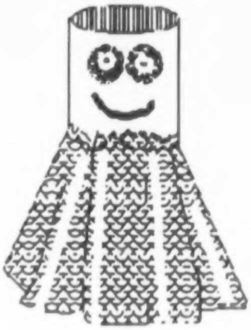


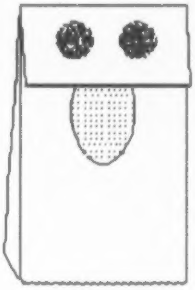
Stick puppets can be made when the child draws, paints, or creates a collage face or figure on paper, a paper plate, cardboard, or poster board and attaches it to a tongue depressor type handle. Dowel rods or straws can also be used as handles for puppets. Tongue depressors and POPSICLE sticks can be used and decorated as the puppet itself.





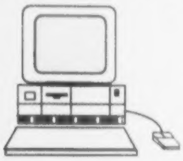
Cardboard tubes can be painted, colored, or collaged to create a puppet. Pipe cleaners or bits of construction paper scraps can be glued on for arms and legs. Cardboard bathroom tissue tubes and paper towel tubes are nice sizes for small hands. A piece of cloth can be glued or stapled to the cardboard tube to cover the hand as the fingers are inside the tube.





A grocery bag mask can be made by cutting out two eye holes. Cutting additional openings for the nose and mouth will make it easier for the child to breathe. It might be helpful to slit the four sides of the bag so it will fit over the child's shoulders easily. Offer the child paints, crayons, and collage materials to decorate the bag.

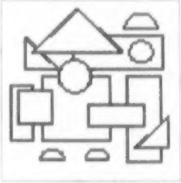
Found objects, like old socks, old gloves (garden, work, utility, driving or dress), paper bags, or mittens make great puppets and are easy for young children to manipulate. Puppets can be decorated with glued on or sewn on materials.



Three-Dimensional Art at the Computer

Several software programs invite creating with forms and constructing images including *Millie's Math House*, *Blocks in Motion*, *Gryphon Bricks*, and *EA*Kids Art Center*.

In the "Mouse House" section of *Millie's Math House*, children can build using geometric shapes (squares, triangles, circles, half-circles, and rectangles). They will begin to discriminate between sizes of the same shape and become familiar with hearing and using the names of shapes. They can discover that a shape is still the same shape, regardless of position and size. The "Mouse House" contains blueprints, a shape supply area, and a work area. Children can build by following blueprints or creating their own designs. By clicking on the empty work area, children can click and drag the shapes wherever they want. The designs can also be printed.



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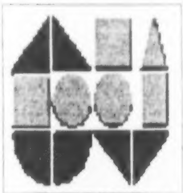
Children can build, paint, and manipulate with various tools when using *Blocks in Motion*. The blocks and glue toolbars encourage children to build things with blocks and glue the blocks together. The background toolbars create scenes for activities or color backgrounds. The motion toolbar can add action and sound to the objects created. Exploring the combination of elements and experimenting with the options such as dropping a block, building vehicles, gluing blocks, painting the background, and putting the blocks in motion is a fun way to play with three-dimensional art on the computer.



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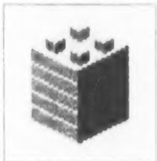
Gryphon Bricks uses building brick imagery to let children create models of whatever they can imagine. The "Kids" version is child-friendly with large, easy-to-click buttons, auto saving, and offers more than 200 brick styles. It has a single view so children don't get lost in their Bricks creations. The palettes for tools,



© copyright Gryphon Software Corporation colors, actions, and bricks are arranged around the edges of the window, enclosing the work space. Children can choose the desired brick shape, select a color, position the bricks in the work space, and click to place it. Bricks can be moved in three dimensions, change color, or be erased.

*EA*Kids Art Center* contains a section called "Block Art", where children can choose a shape to fill in with blocks or create their own imaginative block structure. To play with the blocks, click on the block tool. Next click on a crayon icon to choose a color for the blocks. Finally click on the design to place the block. When playing with blocks, the scissors tool can be used in four ways: to pick up and move a block, to copy and move a group of blocks, to pick up individual blocks, and to move a top layer block to a bottom layer. The eraser tool can be used to erase one piece, to erase a group, to erase the pieces selected, and to erase all the blocks in the picture.

Sample Activity

Making Play Dough

The best part of making, working, and playing with play dough is that there is no right or wrong way to use it. Play dough is good for creating, observing, and thinking about change. Once children have experiences with play dough, they can begin to change it. Through these changes, children can think about how and why these changes occur. Three changes that take place through making and playing with play dough are: changes to texture, changes to color, and changes to shape.

Teacher Role

While helping children make their play dough, draw their attention to the changes occurring to the mixture. Social interactions also take place while children take turns stirring and pouring ingredients. When all the ingredients have "turned into play dough", give each child a piece and keep one for yourself to knead, poke, pound, squish, and roll. With some squeezing, patting, and rolling, children can change a lump of play dough into a ball, a snake, or a pancake. While children are discovering how to make changes they are also learning about conservation—no matter how the shape of the play dough is changed, it is always the same amount. Play dough making is a sensory experience. Ask children how the dough feels, smells, and looks. Add rice or sand to it to change its texture. Try using the dough when it is cold. Experiment together with the quantity of each ingredient so your children can experience concepts such as oily, sticky, runny, mushy, floury, and thick. Keep plastic utensils, cookie cutters, safety scissors, and other things nearby so children can work with the play dough in many ways. Include props to encourage children's pretend play.

Outcomes

Children will notice the changes taking place when making play dough. They will attend to the task of mixing dry ingredients with wet ingredients and transforming them into play dough. Children will experience the different textures of the dry ingredients and the completed play dough.

Children will observe how the additions of liquid and dry ingredients change the texture of the play dough. They will discover that by adding more or less food coloring they can make the color of the play dough more or less intense. Children will collect information by rolling, squeezing, constructing, and manipulating forms and explore making their own creations.

Children will compare their play dough creations with those of others. They will investigate how different recipes can create different types of dough. Children will propose explanations for the different consistencies of the play dough.

Children will apply their knowledge gained from this experience to other mixing or cooking activities. They will apply their skills with play dough to create representative forms.

Materials Needed

- Mixing bowls, mixing spoons
- Measuring spoons, measuring cups
- Plastic zipper bags (for storage of play dough or for taking home)
- Rebus chart depicting recipe

- Recipe ingredients
  - 2 cups flour
  - 2 Tbs. cooking oil
  - food coloring
  - 2 Tbs. alum or cream of tartar
  - 1 cup salt
  - 1 cup + 1 Tbs. boiling water

Note—The color mixes best when food coloring is added to the water before adding to the flour mixture. For some learning experiences (color mixing and blending), the food coloring can be added to the play dough after it has been mixed. This means the child must spend more time manipulating the play dough to mix the color throughout, the food coloring will get on the child's hands. There are many different recipes for play dough—use the one that works best for you.

Procedure

Seat children at a circular table, if possible, so all can see and participate. Assist children in taking turns measuring (or assist in measuring) the ingredients and mixing them together. Children will be able to experience a complete process from raw materials to an end product. After the play dough is made, give each child some play dough and invite them to play with it. Model and encourage squeezing, rolling, punching, poking, constructing, and manipulating shapes and forms. Send some home with each child. Put the play dough in a plastic zipper bag with a note to parents that includes the recipe.

Adaptations

- Use large grip spoons or cups adapted for easier pouring.
- Make sure to verbalize each step of the process. Invite children to touch, hear, and smell the ingredients of the play dough at each phase of the process. Use descriptive language such as: *dry, wet, sticky, warm,* and *cool.*

Computer Software Applications

Software that enables the child to move shapes and forms on the screen.
Macintosh or PC compatible

- *Gryphon Bricks*
- *Millie's Math House*
- *Blocks in Motion*

Related Activities

- Try modeling clay, Model Magic, plasticene, beeswax, plaster of Paris, or goop.
- Try adding tools at the play dough table, such as scissors, rolling pins, cookie cutters, plastic knives, hamburger or tortilla press, and wooden dowels.

Sample Activity

Wood Scraps and Glue Sculpture

Constructing with three-dimensional materials encourages children to build knowledge and skills. It can also help children develop a positive attitude and a sense of autonomy. Begin by encouraging children to play with and explore the wood scrap material. Allow plenty of time to investigate the properties of glue as an adhesive agent. Consider the children's natural interests when planning to introduce the activity. Integrate the activity with an on-going project or theme.

Teacher's Role

The teacher needs to be ready to offer help, to encourage children to be problem solvers, to reinforce social skills, and to foster the use of descriptive language as the children work together.

Outcomes

Children will feel textures of different types of wood. They will attend to and interact with the materials. They will acquire an interest in how materials can be fastened together. They will increase visual discrimination and perceive how moving materials can change the sculpture.

Children will observe the way shapes fit together to create new shapes and collect information about the physical properties of the materials. They will discover and figure out components that enable objects to be fastened. They will construct their own understandings of spatial relationships of objects and materials and try out their own ideas.

Children will compare size, shape, or other attributes while matching, patterning, and sorting materials. They will communicate with peers and adults to compare their thinking with that of others. They will generalize and relate to prior learning with other construction materials like blocks, collage, or cardboard construction.

Children will represent learning in various ways such as communicating ideas and symbols with three-dimensional materials. They will apply their spatial knowledge to new situations, such as other constructing and block building.

Materials Needed

- Wood pieces cut in 2", 4", 6", 8" pieces.
- Small pieces of Balsa wood shapes, craft sticks or other pieces of wood.
- Piece of cardboard, Styrofoam, or plywood (9"x11") to use as a base.
- Non-toxic school glue in small individual containers.

Procedure

Invite a small group of children to sit around the work table. Place wood pieces in the middle of the table. Encourage children to pick up and choose wood pieces, and to verbalize how the pieces look and feel (big, small, rough, smooth, hard). Examples of children's creations might be on display. Compare sizes and shapes of the pieces of wood. Give each child a base which also catches extra glue drips and makes it easy to move the sculpture to a drying area. Demonstrate putting glue onto a wood piece then putting another wood shape on top of the glue. Many very young children or children with little experience with gluing may just be interested in watching glue drip onto the wood pieces. They are not interested in the use of glue as an attaching material. Allow plenty of time for exploration. Encourage children to observe peers and socialize while working on their projects. Join the fun yourself.

Adaptations

Attach an adaptive grip device to the glue bottle. Use a piece of cardboard with Con-Tact paper placed sticky side up for children who may not be able to squeeze glue bottles or manipulate paste brushes.

Attach self-stick Velcro to different pieces of wood to allow children with physical disabilities to create three-dimensional sculpture.

Computer Software Applications

Try software that encourages children to create forms or shapes and attach them to one another. The following software can also be adapted by using a TouchWindow, IntelliKeys, or Key Largo.

- Macintosh or PC compatible
  *EA*Kids Art Center*
  Blocks in Motion (Macintosh only)
  Millie's Math House
  Kid Pix (series)

Related Activities

- Paint the sculpture constructions when they are dry.
- Use with Styrofoam, boxes, or other objects.
- Display posters of constructions or wood sculpture in the art area or block building area.
- Display photographs of children's block building projects.
- Introduce hammering and pounding toys and materials.
- Offer manipulatives such as LEGOs, DUPLOs, and Bristle Blocks.
- Introduce a wood-working area including a work bench, wood scrap pieces, hammers, nails, saws, and rulers.
- Integrate the activity with an on-going project.

Chapter Six
Music and Movement

Music and Movement

Let us first teach little children to breathe, to vibrate, to feel, and to become one with the general harmony and movement of nature. Let us first produce a beautiful human being, a dancing child.
Isadora Duncan

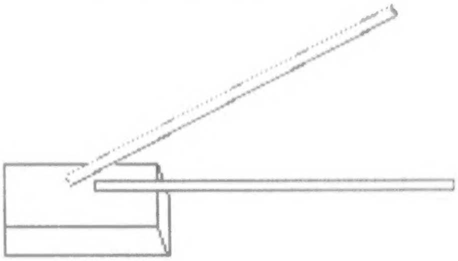
Young children are exposed to musical sounds in their home environments every day. A child may have windup musical toys and crib mobiles that play lullabies. Birds chirp and squirrels chatter outside the window. Radio and television play musical commercial messages. Theme music is part of television programs. Music is everywhere, from the grocery store and shopping mall to the doctor's office. Music helps children develop listening, discriminating, and expressive skills. It can facilitate skill development in many areas, but this should not be the only reason to have music as a part of the early childhood curriculum. "Nurturing music skills should be considered essential in early childhood simply because of the richness it brings to one's life" (Feierabend, 1990, p. 27).

This section begins with outcomes of a music and movement curriculum. Key concepts and ways to introduce young children to these concepts are discussed. Sample music and movement activities are found at the end of this chapter.

Children first show their awareness of and respond to musical sounds by holding still and concentrating or by turning their heads to the source of the sound. Music and movement tend to go hand-in-hand. Some children wiggle their toes or tap their feet while others will move their heads, and still others move their entire bodies to the music. Children experience more enjoyment with music and action songs as they gain more discrimination, coordination, listening, attending, and communication skills. McDonald and Simons (1989) have identified seven outcomes for an early childhood music curriculum. These outcomes include: listening, singing tunefully, moving expressively, playing classroom instruments, developing age-appropriate musical concepts, creating self-satisfying music, and respecting and valuing music as a part of everyday life.

Feel the Beat

A teacher can extend children's musical learning from the home to the classroom by providing many opportunities for them to experience sound, beat, rhythm, melodies, movement, songs, and instruments. Essential concepts to develop during early childhood are feeling the beat and sequencing movements to the beat. This basic sense of timing is carried over to other activities such as reading, cutting, drawing, skipping, and galloping (Weikart, 1987). Help children feel the beat by rocking, tapping, patting, and moving to the beat while singing, chanting, or dancing to music.



Another way to help children develop their sense of timing is to listen to beats found in everyday life. Have children listen to the swish-swish of the windshield wipers on the bus, to the drip-drip of a water faucet, or to the bang-bang of a hammer. What beats can you find in your classroom? Does the radiator clank on a regular basis, does the wind tap the shades or blinds against the window? What about when a child pounds play dough with a fist—is there a beat? Can you imitate the sound? How—by slapping your thigh with your hand? Ask the children to try a different movement to make the sound. A sound search not only helps develop children's timing but also teaches auditory discrimination skills.

Rhythm instruments can help to reinforce the beat. Have children tap on a block with a rhythm stick as music with a strong beat is played. Hap Palmers's "The Hammer" is a favorite song with young children; some children call it "Bang-Bang." Favorite songs in the classroom often are requested at home. Send home words and actions to songs sung in class to make the home-school connection. After children master feeling the beat, add activities that highlight the irregular patterns of music (rhythm).

Listen to Rhythms

Rhythm is the uneven patterns of beats, divided beats, and rests made by the melody (Weikart, 1987). Many children are able to understand the concept of rhythm easier than that of beat because there is a one-to-one correspondence with each syllable in the song—rhythm is more concrete than beat. Is it easier to clap your hands to each syllable of "Twinkle, Twinkle, Little Star" than to clap to the 4/4 beat of the song?

Listen to a variety of rhythms in music, both live and recorded. Many children are fascinated by the sounds of different instruments and will listen attentively for short periods of time. Invite family members to share their singing or to play an instrument with the group. Young children are active listeners. They need to be able to respond to the rhythm of music with movement, creative dance, clapping, or playing rhythm instruments. Use carpet squares and pillows to create a relaxing listening atmosphere. Ask children to listen for a particular instrumental sound, a beat, a rhythm, or changes in tempo. Children might also like to respond to music with art materials, movements, and their own sounds. Try playing classics by Vivaldi, Saint-Saéns, Mozart, Chopin, Grieg, or Tchaikovsky. Many, like Saint-Saéns' "Carnival of the Animals," Tchaikovsky's "The Nutcracker," and Prokofiev's "Peter and the Wolf" also tell a story.

Experience Tempo, Pitch, Dynamics, and Timbre

Other concepts important to a music and movement curriculum are tempo (fast/slow), pitch (high/low), dynamics (loud/soft), and timbre (tonal quality). All of these concepts can be learned by giving children hands-on experiences. Provide short selections of a variety of music for children. Select music you enjoy because children will respond to you and your actions. Include both simple children's favorites and more complex adult music. Talk about the music. Is Rimsky-Korsakov's "Flight of the Bumblebee" fast? Can the children move like bees? Hap Palmer's "The Elephant" may lead to a discussion of tempo. The elephant first moves slowly but then runs through the jungle. "Head, Shoulders, Knees, and Toes" is a song that can start off slow and work its way up to a fast rate. Experiment with dynamics by using a few songs and first singing a verse with loud voices and then with soft voices.

Peter and the Wolf is an interactive CD that allows children to choose different instruments to play the characters' songs. This is an excellent opportunity to discuss timbre, the tonal quality of the instruments. The bassoon has a deep, rich quality. Woodwind instruments sound much different than brass instruments. Explore the songs using different instruments. Which instruments do the children prefer?

Try singing songs in different voices, like a mouse or a big bear. "The Three Bears Rap" explores the concept of pitch. Papa Bear has a very low voice, Mama Bear has a normal range voice, and Baby Bear has a high voice.

The Three Bears Rap, author unknown
Once upon a time, (clap hands)
in a nursery rhyme
There were three bears. (clap hands)
  Cha, Cha, Cha.

One was the Papa Bear, (clap hands)
One was the Mama Bear, (clap hands)
And one was the Baby Bear.
  Cha, Cha, Cha.

They all went walking, (clap hands)
In the woods they were talking
When along came a little girl (clap hands)
With long flowing curly hair. (twirl hair)
Her name was Goldilocks. (clap hands)

Up upon the door she knocked. (knock)
She didn't care
That no one was there (clap hands)
She walked right in. (clap hands)
No, she didn't care. (clap hands)

Home came those three bears!
"Someone's been eating my porridge!" (clap hands)
said the Papa Bear.
SAID THE PAPA BEAR. (hands on hips)
"Someone's been eating my porridge!" said the Mama Bear.
SAID THE MAMA BEAR. (hands on cheeks)

"Hey Mama re-bear." (snap fingers)
Said the little wee bear.
"Someone has BROKEN my chair.
UGH! (elbows to sides)

Goldilocks, she woke up; (clap hands)
She broke up the party,
And BEAT IT OUT OF THERE! (low voice).

"Bye, Bye, Bye, Bye, Bye-bye." (wave)
Said the Papa Bear.
SAID THE PAPA BEAR. (hands on hips)

"Bye, Bye, Bye, Bye, Bye-bye." (wave)
Said the Mama Bear.
SAID THE MAMA BEAR. (hands on cheeks)

"Hey, Mama re-bear." (snap fingers)
Said the little wee bear.
"Bye, Bye, Bye, Bye, Bye-bye." (wave)
UGH! (elbows to sides)

Try These Ideas in the Classroom

Shared musical experiences with children need to be both spontaneous and planned. Begin by joining in children's own improvisations, playing with the children's own rhythms and chants, and supporting their musical events. Create an open, supportive atmosphere for children's involvement by introducing new songs without being controlling. When introducing a new song, choose one that you know and like. Repeat the song over several days and invite the children to clap or tap along. You can also use a visual prop (such as a puppet, stuffed animal, photograph, picture, or book) that relates to the story. Try using spider puppets with the song, "The Eensy-weensy Spider."

Use different kinds of music, such as classical, or contemporary songs, or explore country western, folk music, or spirituals. Children's cultural literacy is enriched when they learn songs that have been sung by children long ago. Folk dances can also be introduced to the children and even simplified so children can experience some of the movements. Try square dancing, a jig, a polka, a hula, a Tamborito, a Hoop Dance, or a Conga. Since many classrooms have diverse populations, this is an excellent opportunity to expose children to some songs from different cultures such as, "Bingo," "Loop de Loo," "Twinkle, Twinkle Little Star," "Here Comes Sally," "Kourilengay," "Frère Jacques," "Zum Gali Gali," and "Haru Ga Kita."

Music can be used to change a mood. If children become agitated, play a recording of soft, quiet music. Watch the mood in the classroom change. Lullabies and other songs have a quieting and calming effect on children. Children can pretend they are tired and sleepy. They can rock a pretend baby in their arms or pretend to rock it in a cradle. Some favorite children's lullabies are "Rock-a-Bye Baby," "Hush, Little Baby," "Kumbaya," and "All Through the Night."

All children can move in some way, whether it be a whole body movement or a small movement, such as blinking an eye. Focus on what the child can do rather than on what the child cannot do. "Rock Candy" is one of many songs that can be used with children so they can show what they can do. Each child can be the leader of a movement activity. Some children may need some prompting with what they can do. Children who use wheelchairs are shown going around and around in the music video of "Shake Something" found on Hap Palmer's video, *Sammy and Other Songs from Getting to Know Myself.* Many adults are adept at noticing when children need to move and provide transition activities that include music and movement. Raffi's "Shake My Sillies Out," and Jim Gill's "Silly Dance Contest," are good songs for children to get the wiggles out before moving on to a more quiet activity. Some teachers make sure to put some active songs in the middle of their group music time to break the session into more manageable portions.

Pick short songs that have repetitive phrases, a reasonable range (C to G or A), and simple beats and rhythms (Wolf, 1994). Nursery rhymes can be sung or chanted. Many rhymes have simple melodies and short verses appropriate for young children. Familiar, simple, and catchy tunes have great flexibility and can be used over and over again by adding new words. "If You're Happy and You Know It" is a song that can easily be changed. Children can change the verses to show happiness by singing *blink your eyes* or *wiggle your toes.* They can also explore other emotions such as sad, angry, and sleepy. Don't be afraid to try new words to old songs. When planning a trip to the farm, get the children ready for the trip by changing the words while singing the tune of "Mary Had a Little Lamb".

Today we are going to the farm,
to the farm, to the farm.
Today we are going to the farm
to see what we can see.

Add other verses for things you might see on the farm.

For teachers who feel uncomfortable with their musical abilities—RELAX! Remember that you are singing *with* the children, not *for* them. A wide variety of music is available on CDs, records, or cassettes. Feel free to use prerecorded music as an accompaniment, but remember that another part of music is the actual experience of singing. A teacher who may not have the best singing voice but who clearly demonstrates joy and excitement during the activity with a broad smile and excited eyes adds a whole new dimension to the music experience.

Teach Songs in Many Ways

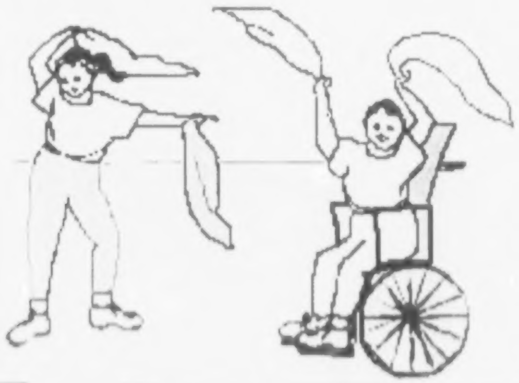
What follows illustrates one way to teach the song "Did You Feed My Cow?" First, play the song as background music to familiarize children with the melody. During group music time, the teacher can sing the song phrase by phrase. This is where your voice without accompaniment is better than a record player or cassette, because you can go slowly, phrase by phrase, without have to go in reverse! Another method commonly used is to emphasize certain phrases of the song, such as "Yes, Ma'am," which is the response to most of the questions in the song.

Props, like pictures and puppets, can also help children learn a song. A string of yarn magically becomes "Walter the Waltzing Worm," a popular Hap Palmer song. Keep the props close to the records, cassettes, and CDs so children have easy access to them during free choice. Hand and finger actions involve children in the song and help them remember the words. After children have become familiar with some of the songs, invite them to suggest their own words or movements. Musical instruments can also be added to provide a different sound to the song. Children can create their own songs on an instrument. Teachers can record music and play it back.

Music Adds to Drama

Songs can easily be added to dramatic play and creative dramatics. Use songs related to children's stories or key experiences. Introduce "The Three Little Pigs Blues," by Greg & Steve, during group music time. Observe how children are truly moved by the music. One child may move her entire body to the beat of the music and other children may move their heads and shoulders. Perhaps the song will become a favorite request during free choice time. The children might act out the story and blow down the houses of cardboard bricks with delight. Children will negotiate who will be the wolf and pigs and problem solve in order to share the blocks to build the houses. Children may film the activity with a video camera (real or toy) or get a book and tell the story.

Music and movement can be incorporated into your routines in many ways. Transitions are a wonderful opportunity to try different movements, songs, or chants. Sing a made-up song as children are going to an activity such as, "Kiesha is coming to paint today, paint today, paint today." Clean-up time may have a special song. Try moving in different ways, like a snake, a giant, or a rabbit as the children go to the gym. Art work inspired by music can be created by playing music in the art area. Comment about how the music makes the children feel and move. Children can also illustrate their favorite songs.

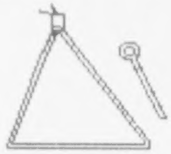


Scarves and streamers encourage children's self-expression as they respond to music.

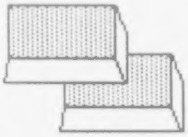
If your classroom engages in projects and themes, combine them with music and movement activities. Seasons are a commonly used theme in early childhood classrooms. Have the children look at the trees and watch the leaves. Can they move like the trees, using their arms as branches and fingers as twigs reaching for the sun? Paper bags or tissue paper cut into strips can be used as leaves. Pretend it's a very windy day. Have the leaves fall to the ground. Vivaldi's "The Four Seasons" can be used as background music for this activity. Create a project on caterpillars and butterflies using Eric Carle's, "The Very Hungry Caterpillar." Tissue paper streamers become butterfly wings and a large sheet can be the cocoon. After the children gorge themselves on the play food, they creep into the cocoon. As the butterflies try to emerge from the cocoon, can you see them begin to test their wings? Once out of the cocoon, will the butterflies dart around the room flapping their beautiful wings? Select appropriate music to accompany this activity.

Musical Instruments

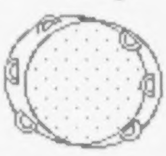
Spontaneous music and movement naturally leads to improvising with musical instruments. Set up the area so children can choose the music themselves. Give everyone time to experiment and explore making sounds with the instruments. During free play, put on some music and let children decide whether they'd like to add accompaniment. Vary the types and styles of music on different days. Have a blank cassette tape ready to record the children's musical masterpieces. Play them back so children can reflect and discover if they want to change anything.



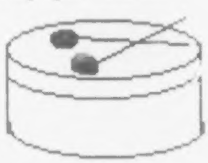
Triangle



Sandpaper blocks



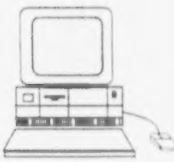
Tambourine



Drum

Place melodic and percussion instruments where children can experiment. Part of the fun of using musical instruments with young children is inviting the children to make their own. See Chapter 9 for ideas for making classroom musical instruments.

Music at the Computer



Today's software titles can help you bring music to life in your classroom. *A Silly Noisy House* has several children's classics such as "Rain, Rain, Go Away" and "Twinkle, Twinkle, Little Star." *Circletime Tales Deluxe* and *Eensy and Friends* are based on "The Eensy Weensy Spider," "Five Little Ducks," and "Mary Wore Her Red Dress." The programs present animated versions of the songs. They can also be used with a switch for children with disabilities. *Lamb Chop Loves Music* lets children explore musical instruments and have a concert. Some of the instruments found in the program could be placed in the music center for children to explore on their own during center time.

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A variety of programs are marketed for children who are more interested in creating their own music than listening to the music created by others. *Thinkin' Things,* with "Tooney Loon" and "Oranga Banga" encourages children to play their own songs. *Making Music* gives children the opportunity to draw a song. In this program, songs can be saved for later use. They can even be placed into a *HyperStudio* stack. *HyperStudio* is an authoring program in which children's drawings, photographs, video clips, and recorded voices can be incorporated into a customized book or story on the computer. Imagine the fun your children will have singing and recording their own creations and then being able to listen to them on the computer. More information concerning technology and music is in Chapter 9.

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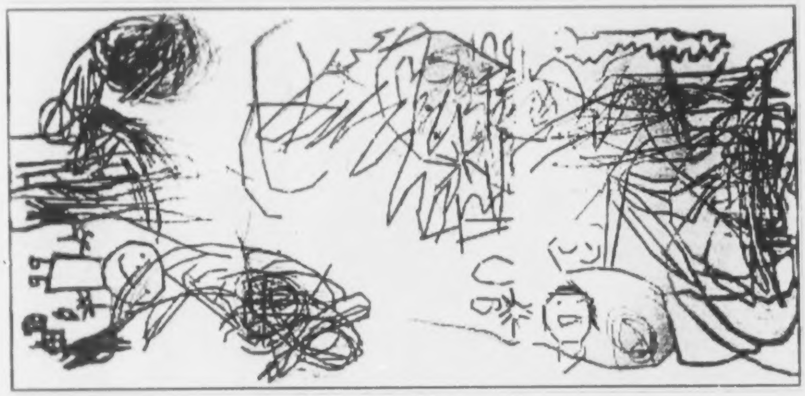
Many computers are equipped with built-in CD-ROM drives that play audio recordings. Your computer becomes another tool to incorporate music into the curriculum. Musical selections can be played from the computer during group time, free time, and even at nap time.

Sample Activity

Drawing to Music

Music, movement, and the visual arts can overlap one another. All three areas can be used to help children develop understandings of patterns and feelings. Music can make people feel different emotions, as can a drawing or painting. Music can also inspire movement and drawings.



Teacher's Role

During the activity, talk about the music, how it makes you feel, and how it makes you want to move. If some of the children begin to swing their arms back and forth, mimic that movement and talk about it. Are there other types of movement that go with the music? Some children may be too shy to begin the action, so the teacher may have to start the movement. Encourage others to think of different movements. Provide different types of music and encourage the children to draw with the music. Teachers can also facilitate the development of language and listening skills by using this activity.

Outcomes

Children will develop auditory discrimination by listening to a variety of music. They will acquire an interest in music.

Children will explore visual art materials while moving in time with the music. They will create marks on paper with materials and observe other children's actions. Children will discover new ways to move.

Children will examine their marks on the paper to see how they relate to the beat or rhythm of the music selection. They will compare their own ways of creating marks with those of others. Children will relate the marks made during the music activity to marks made in other situations, as well as similar marks found in nature.

Children will apply this learning in new situations by using music in other areas, such as dramatic play, transitions, and different art activities. Children will identify and use patterns found in music and marks to carry over into other activities.

Materials Needed

- Record player, compact disk (CD) player, or cassette player
- Records, CDs, or cassettes with a variety of music including children's songs, classical, dance, jazz, marches, and musical soundtracks
- Visual art materials (drawing paper, drawing tools, adaptations as needed)

Procedure

Set up the record player or cassette player in the art center. If your space is limited or no outlet is available in the art center, set the equipment where all can hear. The objective is to encourage movement and add a new dimension to all centers. Place drawing paper on the floor or table. Invite the children to kneel, sit, or lie down on the floor (whichever is the most comfortable). While the children are choosing colors of crayons or markers, put on the music. Attach adaptive devices to the drawing tool or to a child's hand as needed. As the music plays, model, demonstrate, and facilitate expressive arm movements and mark-making. Observe and encourage verbalization and positive social interaction as children react to the auditory stimulation of the music and make marks or draw. The brief time between musical selections is the perfect time to choose a new color or switch drawing hands. Talk about the observations and changes in the music's beat and rhythms. Is the music fast or slow, loud or soft?

Adaptations

- *HEAR WE GO!* - Traditional American Children's Songs; Music For All To Hear, Inc. PO Box 7331, Denton, TX 76201. This is a cassette tape and song book especially designed for the hearing impaired.
- Foam grip device, tape, or other device to provide a larger grip for the drawing tool.
- Pillows or a bolster for positioning the child properly and comfortably.
- Wheelchair or adaptive seating with tray.

Computer Software Applications

Several programs contain sections that encourage children to create their own music or listen to musical selections.

Macintosh or PC Compatible
Kap'n Karaoke
Lamb Chop Loves Music
Making Music
The Backyard

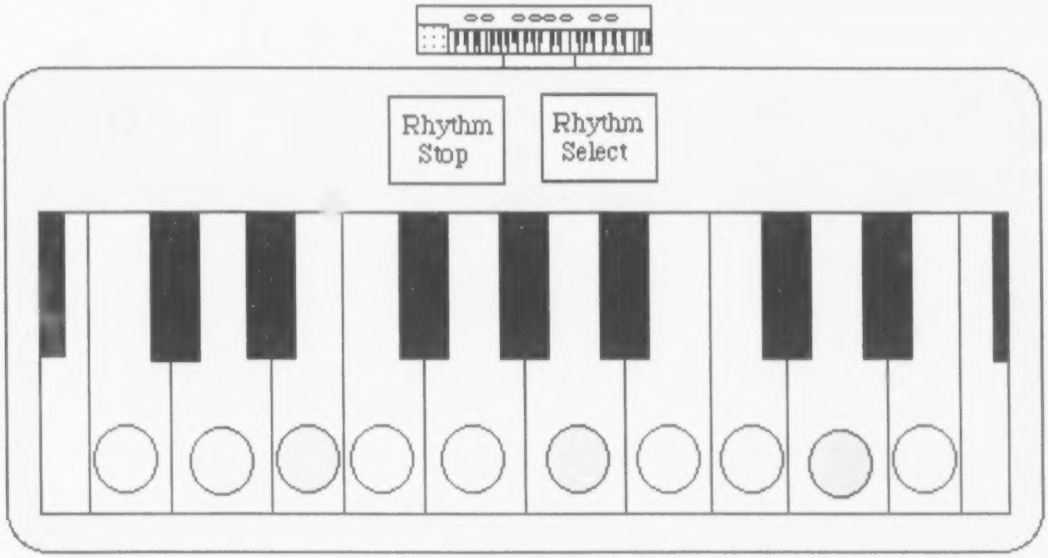
Related Activities

- Take music to the gym, outside, and snack or lunch areas.
- Use two arms for "dancing" with a crayon or marker in each hand.
- Place paper cut-out shapes underneath the drawing paper to create interesting textures. Play music as an accompaniment.
- Draw outside to music using chalk on the sidewalk.
- Tape large sheets of paper to the wall and draw to music.
- Move to music holding scarves or banners.
- Paint to recordings of nature sounds like thunderstorms, the rain forest or the ocean.
- Use music for transitions, such as cleaning up, or getting ready for the bus.

Sample Activity

The Music Mat

The music mat is a floor version of a piano keyboard. Please refer to the Appendix in this manual. Similar versions are available commercially. Children can crawl, roll, walk, run, slither, or wheel themselves across the mat and listen to the sounds they make as they activate hidden switches. Some children may not initially be aware that their actions cause the sounds; however, once they do develop that awareness—watch out! They will be trying out all kinds of movements to make music.



Teacher's Role

Talk about how the children move across the mat. This is a great way to add to children's vocabulary. Keep an eye out for safety. If children begin to run into one another, slow down the momentum by asking them how they think a turtle or a snail would go across the mat. If the mat is equipped with different rhythms, talk about their tempos. Are they fast or slow, smooth or choppy?

Outcomes

Children will develop auditory discrimination skills. They will discover that their movements cause the sounds to be produced. Children will learn about the different pitches and rhythms of the music mat. They will begin to notice the relationships between adjoining notes and those farther apart as they learn about pitch and high versus low sounds.

Children will observe ways their peers make musical sounds. They will explore the different sounds, beats, and rhythms they can create with the music mat. Children will discover ways to make new sounds.

Children will investigate the many sounds they can create when moving on the music mat. They will develop assumptions about how to create music with different beats, rhythms, tempo, timbre, or pitch.

Children will use their auditory and movement skills to create musical sounds. This knowledge about the creation of music will be applied to other materials such as instruments, switch toys, and found materials.

Materials needed

- Music Mat (Chapter 9 and the Appendix contain more specific information about the Music Mat)
- Large floor space
- Batteries, including some for back-up use.

Procedure

The interactive Music Mat needs to be set up on the floor with plenty of room around it. Children can become quite physical as they devise their own ways to interact with the Mat. Explain the safety rules of being careful not to bump, sit on, or pull the actual keyboard. Explain that if the actual keyboard is damaged, the large floor Music Mat will no longer "Make Music." Your next step is to facilitate exploration, cause & effect, and "Makin' Music with Their Feet."

Adaptations

The Music Mat is tough but very sensitive to touch. It is designed to accommodate a wheelchair rolling on it.

Related Activities

- Software that uses musical sounds and can be accessed by mouse, TouchWindow, switch, or adaptive touch tablets, such as Key Largo or IntelliKeys.
- Battery operated switch toys that use musical sounds and can be used with a switch.
- Musical instruments and audio tapes or CDs can be used for dance and movement activities.

Sample Activity

Sounds Around Me

A simple software program about sounds such as *Switch Intro*, can be used as a means to learn more about the sounds in a child's environment. Combining the program's visual and auditory feedback with off-computer materials, such as books and toys, encourages children to explore both familiar and novel sounds. Including signing and adaptations in equipment and materials ensures that each child participates in the activities. This activity was adapted from *Building InterACTTive Futures* (Hutinger, Johanson, Robinson, & Schneider, 1997).

Teacher's Role

The teacher's role is to provide children with many opportunities to be aware of sound, to hear sounds in their environment, and to make their own sounds. Sounds are a natural part of a child's environment. Since hearing is one of the five senses, children learn about their world through sounds around them. "Make It Sound" is a program component of the software, *Switch Intro*, which presents children with a variety of sounds and pictures. This program can be used to design activities for very young children. Children control repeating the sound or changing to a new sound by pressing a switch. Combine off-computer materials, such as sound-making toys, a picture book, and recorded sounds to develop many activities around this simple program.

Outcomes

Children will attend to sounds in their environment. They will learn that they are causing the sound when the switch is pressed.

Children will explore making sounds by pressing a switch. They will explore familiar and novel sounds.

Children will listen to and compare favorite sounds with those that are less familiar. They will make choices to repeat favorite sounds as often as they like.

Children will control and repeat sounds or change to a new sound. They will make the cognitive connection between image, sound, and toy prop. They will use new knowledge of sounds around them to relate to their world.

Materials Needed

- Macintosh computer with Color Monitor
  (4 MB RAM with System 7.0 or 2 MB RAM with System 6.07/6.08)
- *Switch Intro*—"Make It Sound"
- Macintosh Switch Interface
- Switch
- Switch Holder (optional)
- Toy props such as a music box, a drum, a saw, a hammer, a telephone, a bird, a watch, a guitar, and a motorbike

Preparing the Environment

To limit distractions, cover the pieces of equipment that are not being used by the child. Position the monitor on a low table with the keyboard out of the child's view. Place a suitable switch in a stable position on the table in front of the monitor (or on the child's wheelchair tray). Have the group of toy objects within easy reach to use during the activity.

Boot the program, *Switch Intro*, and select "Settings." Set the switch input for one switch use and set other options appropriately. Select "Make It Sound" from the picture menu.

Procedure

Encourage children to explore the switch and press it to hear a sound. Talk about what the sound is and how it relates to the picture on the monitor. Offer the toy that makes a similar sound. Design the activity to be exploratory so that children can play with the toy and press the switch to hear the sound as often as they want.

Ask children how to make the sound (from the computer) again. Observe switch pressing behavior to assess the child's awareness of cause and effect. When the child seems to tire of one object, ask him if he wants another picture or sound. To change to a new picture and sound, press the number 3 on the keyboard. Repeat the activity offering corresponding toys to pictures on the monitor. If a child is hesitant to press the switch, provide physical assistance or model switch pressing for him.

Related Activities

Assemble a group of toy objects similar to those which appear as pictures in the program. Design activities around the objects focusing on the sounds which they produce. Talk about the sounds, relating each sound to the object which produces the sound in the environment. Talk about similar sounds the children may hear at home. Encourage the children to imitate the sound.

A book can be made with pictures printed directly from the program. Each screen can be captured as a "Picture" by pressing Command-Shift-3. The captured image is saved as a "Picture" on the desktop. The picture must then be placed in a graphics program, such as *ClarisWorks*, to be printed. The picture book can be used with a group of children or on an individual basis, to familiarize the children with the objects they will later see on the computer. A variety of activities can be designed around the toy objects and the picture book.

This activity can be designed for choice-making, by selecting the "Two Switches" option in the program's "Settings." By pressing one switch the child can hear the sound. With a press on the second switch he can change to a new picture. In this way a child controls which sound and picture he wants.

The "Two Switches" option can also be selected with the adult controlling the switch for the picture change while the child controls the switch for sound change. This arrangement ensures sufficient time on each picture to talk about the object and sound. Otherwise, with very young children, rapid switch pressing may defeat the purpose of the activity. Repeated picture and sound change resulting from rapid switch pressing does not allow sufficient time to focus attention on any one picture. The child may not understand the causality of the rapid changes on the monitor with random switch pressing.

Talk about or create games about familiar sounds in a child's environment including:

Self—Sounds the child can make, words the child can say, silly sounds the child can make, vocal imitations of familiar sounds;

Home—People at home who make sounds, animals or pets and their sounds, music from a tape recorder or radio, sounds unique to each room such as water running or toilet flushing in the bathroom;

School or Program—Names of children and adults, songs sung by the children, musical instruments, children playing, sounds of toys, sounds from the computer programs;

Outside—Birds chirping, animals making sounds, insects making sounds, airplanes, wind blowing through trees, rain falling, cars/trucks going down the street, children running or walking, playground noises.

Chapter Seven
Dramatic Play

Dramatic Play

Imagination is more important than knowledge.
Albert Einstein

Dramatic play permits children to fit the reality of the world into their own interests and knowledge. One of the purest forms of symbolic thought available to young children, dramatic play contributes strongly to the intellectual development of children (Piaget, 1962). Symbolic play is a necessary part of a child's language development (Edmonds, 1976).

Drama: What It Is and What It Isn't

Drama is the portrayal of life as seen from the actor's view. In early childhood, drama needs no written lines to memorize, structured behavior patterns to imitate, nor is an audience needed. Children need only a safe, interesting environment and freedom to experiment with roles, conflict, and problem solving. When provided with such an environment, children become interested in and will attend to the task at hand and develop their concentration (Way, 1967). Opportunities for dramatic play that are spontaneous, child-initiated, and open-ended are important for all young children. Because individual expression is key, children of all physical and cognitive abilities enjoy and learn from dramatic play and creative dramatics. In early childhood, the term *dramatic play* is most frequently used and the process is the most important part, not the production. Dramatic play expands a child's awareness of self in relation to others and the environment. Drama is not the production of plays usually done to please adults rather than children (Wagner, 1976).

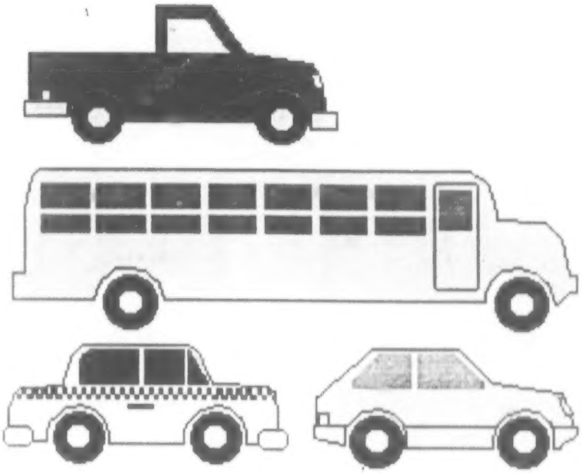
Elements of Drama in the Early Childhood Classroom

- *Dramatic play* includes role-playing, puppetry, and fantasy play. It does not require interaction with another.
- *Socio-dramatic play* is dramatic play with the additional component of social interaction with either a peer or teacher (Mayesky, 1988; Smilansky, 1968).
- *Creative dramatics* involves spontaneous, creative play. It is structured and incorporates the problem solving skills of planning and evaluation. Children frequently reenact a scene or a story. Planning and evaluating occurs in creative dramatics (Chambers, 1970, 1977).

Developmental Stages of Dramatic Play

Piaget (1962) defines dramatic play as symbolic play that involves the manipulation of reality through pretending and fantasy. In very young children, imitation and representation can be as simple as imitating waving "Bye-bye." Through dramatic play, children are free to make things as they wish they were. Children use body language, monologue, and dialogue to communicate; objects and play props to symbolize their ideas and feelings; action and movement to represent and communicate.

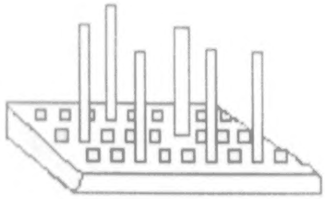
For information concerning the stages of social play, please refer to chapter 2. Dramatic play progresses through variations on at least three themes, according to Kostelnik, Whiren, & Stein (1986). One is *domestic play* such as caring for dolls, cooking, cleaning. Another is *rescue play* when children problem solve fixing a flat tire on a toy vehicle or taking care of a sick doll. A third theme is *sudden threat*, such as when they pretend to be chased by monsters. Opportunities for dramatic play are endless in the early childhood classroom. Favorite stories may be acted out or retold, significant events of the child's life may be explored, and fantasies may be probed.



Dramatic play uses all the senses. A lump of play dough can take on the role of a chocolate chip cookie fresh from the oven. The children smell it, blow the heat away, and oh, it tastes so good! Through dramatic play, children can explore, experience, and express feelings. They become comfortable with their emotions and learn how to express them in an appropriate manner.

Dramatic play engages children in symbol development, important for the development of literacy. When children begin naming play objects and seeing the objects' names printed in their environment, they become aware of the writing symbols that represent these objects. For example, children may use a block to represent a piece of pizza when playing restaurant. After a field trip to the Pizza Hut, they also may be able to identify and make the connection between the logo symbol of Pizza Hut and pizza. The following anecdote further illustrates how dramatic play enhances symbol development

> *Libby, a 4-year old who has learning disabilities, made a birthday cake and candles out of a pegboard and pegs. After the "Happy Birthday" song was sung, Libby made a wish and blew out the candles. Libby used ordinary pegs to represent the familiar objects of a cake and candles. Making the transition from the concrete to the abstract is a complex process.*



Communication, listening, fine motor, gross motor, and concentration skills can also be developed through the use of dramatic play. A sense of autonomy and differentiation between reality and fantasy also occurs. As a result of frequent exposure to dramatic play, children learn cooperation, sharing, and how to take on another's perspective (Chambers, 1970; Hereford & Schall, 1991; Way, 1967).

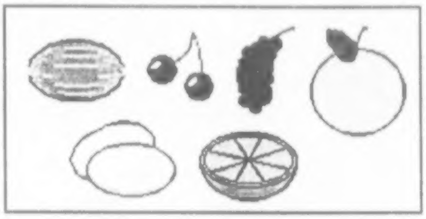
Ideas for Using Dramatic Play in the Classroom

Many activities that naturally occur in the early childhood classroom can be incorporated into dramatic play activities. Comparing and contrasting textures, sounds, and smells all develop skills necessary for dramatic play. Music and movement added to dramatic play activities develop children's coordination and motor skills. Visual art materials placed in the dramatic play area can add a whole new dimension to the play. Children may want to move the table out of the kitchen area to the front of the classroom for restaurant play. A pad of paper and a pencil can become the waitresses' order tickets. The same pad could also become a grocery list, a doctor's prescription pad, a police officer's ticket pad, or a student's school tablet.

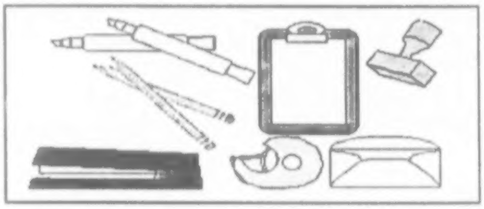
Prop Boxes
Prop boxes can be created for different scenarios, themes, projects, or activities. If the children are interested in the doctor's office or hospital, a medical bag with bandages, stethoscope, blood pressure cuff, and other objects can be provided. Extend role playing by adding white shirts, nurse's caps, an eye chart, examining table, magazines, chairs, a telephone, thermometer, and a height chart. By using the objects, children become familiar with them and learn how they are used. This familiarity may lessen their anxiety about visiting the doctor.

More Prop Box Ideas

- Create a *Super Market/grocer* prop box by finding the following items: food cartons and boxes, cash register and play money, telephone, pads and pencils, shopping bags, plastic fruits and vegetables, shopping carts, calculator, and pretend checks and credit cards. Shelves for storing food and a table would also be useful as a checkout area.

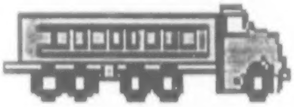


- A *Post Office/mail carrier* prop box can be put together with the following items: mailbag, mailbox, junk mail, postcards, pencils, old stamps and stickers, packages, paper and string, paper money, rubber stamps, envelopes, stationery, and a telephone. Children can also create their own mailboxes with shoeboxes or large mailing envelopes.

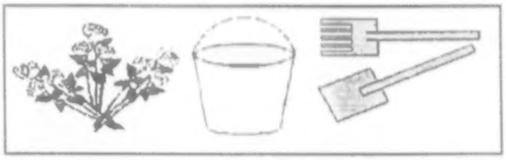


- Create a *Restaurant/Cooking* prop box with the following items: tables and chairs, order pads, menus, dishes, play food, tableware, trays, telephone, place mats, tablecloths, sponge, napkins, paper money, coffee pot and cups, cooking hat and apron, play stove, sink, refrigerator, and pots and pans. Children can set up the restaurant, design the menus and become cooks, waiters, waitresses, and customers.

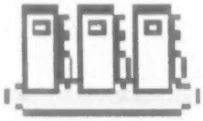
- A *Fire Fighter/Rescue* prop box will need the these items: hats, boots, telephone, hose, and wagon. (Use cardboard boxes that children paint to make a firetruck. Add details, such as wheels and windows.)



- A *Gardener/Farmer* prop box can be created in a sandbox with the following items: small gardening tools such as trowels, rakes, shovels, hoes, small spades; watering can or mister; plastic flowers and vegetables; and empty seed packets.



- Gather these items for a *Gas Station* prop box: unused empty oil can (the kind to dispense oil drop-by-drop), flashlight, rubber hose lengths, sponge and a bucket, rubber or soft plastic tools, "credit" cards, play money, a gas pump, and a telephone.



Children's Literature
Children's literature is another way to integrate dramatic play in the classroom. Children love to reenact many favorite stories, fairy tales, and rhymes. Select a story that both you and the children enjoy. As you read or retell the story, ask the children, *What happens next?* to help develop

prediction and sequencing skills. Encourage a discussion about the characters, the setting, and the plot. If some of the children show interest in reenacting the story, encourage them to plan what they will do and how they will do it. Remember, good stories for creative dramatics:

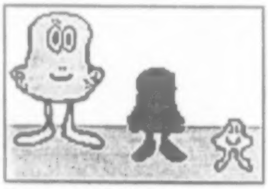
- Have a clear story line with a beginning, middle, and end.
- Are age-appropriate and developmentally appropriate.
- Include dramatic conflict.
- Can be broken down into problem solving tasks that allow for character development, movement, and mime or dialogue.
- Have a limited number of scenes.
- Allow for as many or as few parts as needed for the group.
- Are favorites of yours and your children.

A list of children's books can be found in Chapter 12.

Dramatic Play at the Computer

Children love exploring software programs. Props relating to software characters can be gathered and created to extend the software into the dramatic play area. Children can become so involved with the characters on the computer that they will enjoy reenacting the stories and songs through dramatic play. Programs such as *Millie's Math House, Circletime Tales Deluxe, Just Grandma and Me,* and *The Busy World of Richard Scarry Busytown* can easily be carried into the dramatic play area. Create paper versions of the characters in the different software programs by taking a snapshot of a particular screen or character, printing the character, cutting out the character, mounting the character on card stock or construction paper, and then laminating the figure. The laminated characters can be used for flannel boards by adding a piece of Velcro to the back. A few suggestions for the many ways to use software include:

Millie's Math House: Gather different styles and sizes of shoes and put them in the dramatic play area for "Little, Middle, and Big." Children can try on the shoes to see which fit, and they can also sort them into different groups. See how many different ways the children can find to group the shoes. Another way to extend the software is to print out the shoes and characters from the software. On a flannel board, children can match the shoes to the character. These activities could also lead to a shoe store with a cash register, shoe displays, and salespeople.



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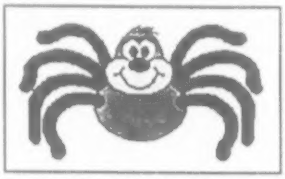
Circletime Tales Deluxe: "The Eensy Weensy Spider" can be reenacted by providing play spiders, a water spout, and the sun. The children could be in charge of creating all of these items. Spiders can be created with pipe cleaners, the water spout could be cardboard tubing, and the sun could be made from cardboard or construction paper. Create a printed version of the song by using screen dumps and laminating the pages to form a book. The children will enjoy referring to the book as they play.



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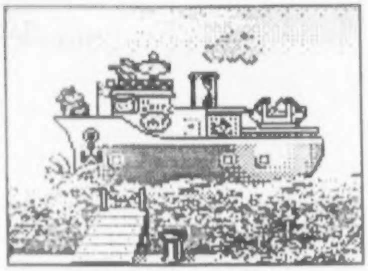
Just Grandma and Me: Create a beach in the classroom. The beach will need towels, buckets, shovels, empty sunscreen bottles, straw hats, lawn chairs (if there is room), and sunglasses. Play recorded ocean sounds while the children are at the beach. Create a printed version of the story for the children to read as they relax on the beach. Pack a picnic basket with play food for a picnic at the beach.

© copyright Brøderbund Software Incorporated

The Busy World of Richard Scarry Busytown: After helping "Captain Salty" build his ship and gather his crew, the children might want to take a ride on a pretend ship. Tickets will be needed to board the ship. A large refrigerator box can be painted or drawn on, chairs can be put inside, and then it's out to sea. Food can be served to the travelers. An assortment of different boxes can be used with "The Delivery Truck." Children can put items in the boxes and deliver them to the other children in the class or even other people in the building. Band aids, a stethoscope, and a doctor's bag and coat can transform children into "Doctor Diane."



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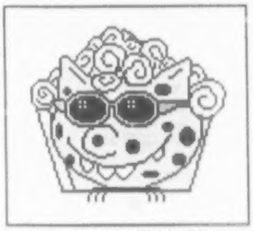
Thinkin' Things: Children can create their own Fripples for "The Fripple Shop." Large storage boxes can be used as the the shop. The boxes can be cut open down a vertical side and taped together to form an L-shaped back drop. Children can paint the shop to match the shop on the computer program or create their own storefront. A window and door can be painted and a door can be cut open. Use clear packing tape to hinge the door so that the children can open it up to come into the shop. Add simple props such as a small child's table, a telephone, a cash register, and the Fripples the children have made.



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Using characters from the software in dramatic play is simple. Create a screen dump of the page that has the character you want. Screen dumps are done differently, depending on the software used. Some computers allow only a snapshot of the whole screen while others will allow a snapshot of a designated section of the screens. Refer to the computer's documentation to determine how a screen dump is made. Print out the character, mount it on a sturdy material such as construction paper, then laminate. Once laminated, the character can be used in many different ways. Velcro can be placed on the back to be used with a flannel board. A material called Tempo can be used to replace flannel. It is sturdier, and Velcro is easily attached and removed. Chapter 12 lists the source for Tempo material. The characters will stay in place better than with flannel. Tempo can also be used to create storytelling aprons. To the right is an example of a teacher using a storytelling apron.

Sample Activity

The Artist's Studio

Dramatic play offers a safe environment for children as they imitate actions they observe, explore, and try out new roles. This role-taking is an important part of beginning to learn about and understand their worlds and the people in them. When playing the artist in the studio, young children take on roles of others by enacting familiar routines like making marks with crayons, finger painting, or playing with play dough. Older children develop extended play episodes as they interact with peers, problem solve, share materials, and role play a variety of situations.

Artists as Resources

This section is adapted from the *Art Space* curriculum which is available through Macomb Projects. Arrange for the class to visit an artist's studio or invite an artist to come into the classroom to share his or her work and ideas. If the artists are members of the children's extended family, that's even better. Ask the artists to demonstrate a short process. For example, if the artist is a potter, ask him or her to make a coil pot with clay. Prepare the artist ahead of time, requesting that demonstrated processes be simplified, without talking down to the children. Children prefer *doing* to *watching others do*, so follow up with an activity related to the demonstration, if possible. Use appropriate adaptations for children with physical disabilities. Invite artists back to see children's work and to bring the initial work back into the classroom at another stage.

Following the artist's visit, discuss the sequence of activities and processes that went into making the piece of art from beginning to end and relate it to the children's art activities. Ask them what they did the last time they painted a picture (getting the tempera, pouring it into jars, bringing clean paint brushes, getting paper from the shelf, fastening it to the easel, putting on a paint shirt or paint apron, getting adaptive brush handles attached to the hand (if necessary), putting brushes into the paint, painting with various colors, taking the painting down, waiting for it to dry, writing a name on it, then finally putting it on the bulletin board art display). Children can assist the teacher in making a visual map of the sequences, using photographs, drawings, paintings, or real objects to display in the classroom studio.

Teacher's Role

The teacher's role is to make the arrangements for the visits with an artist, setting up the artist's studio environment in the classroom, providing time, space, and materials, and facilitating activities for the children. The teacher also can become a partner in the artist's studio play, model how to interact with materials and classmates, and encourage communication with peers.

Outcomes

Children will learn that adults use the same types of tools and materials that children do to create art. They will acquire an interest in how adult artists work.

Children will explore and discover tools that artists use. They will develop understandings about art materials, and observe peers and adults cooperating, sharing, taking turns and solving problems. Children will attend to the differences in lines made by different marking tools.

Children will investigate the roles of the artist working in a studio. They will focus on social and communication skills, compare experiences in the artist's studio with peers, and generalize assumptions about creating works of art.

Children will apply new knowledge about an artist's work in the safety of the classroom and use new learning concepts in other classroom areas.

The Classroom Studio

When setting up the classroom Artist's Studio, emphasize that a studio is where artists work. Discuss the elements the children need to have a studio and how artists arrange their space so materials can be most easily used. Discuss the need for a source of water when painting, as well as the need for a paint shirt or smock. An ongoing discussion with children about what objects and materials are needed to go into the studio will bring out interesting ideas. For example, most artists have reference works on their studio walls. Some have still lifes set up. Children may want to set up a still life to draw, paint, or to look at. Read more about the Reggio Emilia, Italy, early childhood centers' approaches to art and learning for an excellent rationale for young children drawing from observation (Edwards, Gandini, & Forman, 1993). Chapter 12 also has more information about resources.

Involve families by sending information home about the children's art activities. Invite them to an opening of the children's classroom studio. Set up art centers for the opening. Children can demonstrate processes or show off finished products. Welcome and encourage family participation.

Materials Needed

- Drawing tools and materials: Crayons, markers, pencils, chalks, Cray-Pas, paper in a variety of sizes, shapes, and textures
- Painting equipment, tools, and materials: tempera paint, paint containers, a variety of brushes, easels, drying space
- Materials for three-dimensional projects: Collage materials, fasteners, scissors, modeling materials, and construction materials
- Display space for both 2-D and 3-D projects
- Books about artists and their work
- Posters and postcards of art reproductions
- Still life displays

Activity Ideas

Just as they become Daddy, Mommy, nurse, or grocery store clerk, children can become artists, acting out the role. Display art works by Leonardo da Vinci, Donatello, Michelangelo, and Raphael. After talking about how Michelangelo painted the ceiling of the Sistine Chapel while lying on his back, invite the children to try. Tape paper to the underside of the art table. The children can lie on the floor and reach up to paint or draw with markers.

Play games with the art postcards. Children can choose between different styles of fine art with similar subjects. For example, children can look at a group of portraits with either people or animals as subjects. They can decide which picture is their favorite. Invite them to describe why they like a particular picture. Ask probing questions. Perhaps the portrait of someone wearing a friendly smile. Why do they think the person is smiling? The children can choose partners, sit across from each other, and draw a portrait of their partner. On another day the children can choose to paint portraits of other classmates. Portraits can also be made from modeling materials and collage materials, creating a sculpture. These can be displayed for the children to study and discuss.

Discuss the materials artists use. Encourage children to recognize marks made with crayons, with markers, with paint, and with pencil. Different marks can be made with computer graphics, too. Encourage children to observe the nature of the marks carefully. Ask, *Show me how you did that?* or *What did you use to make that picture?* Be sure children notice similarities and differences. Learn to discriminate between plasticene, natural clay, play dough, and silly putty. Talk about the attributes of each. When looking at an image (whether two-dimensional or three-dimensional), talk about the materials the artist used.

Adaptations

Use Theraputty with children who have a weak grip. Add adaptive grips to drawing and painting tool handles. Provide enough space in the artist's studio to accommodate wheel chairs and walkers at easels and tables. Chapter 9 has more information about adaptations.

Computer Software Applications

ArtSpace (Macintosh only) contains images and objects made from many different materials. Relate the concept of studios to "The Studio" on *ArtSpace*. During a Family Night, children can demonstrate *ArtSpace* and other graphics software in the computer center.

- Macintosh or PC compatible
  - *Blocks in Motion* (Macintosh only)
  - *EA *Kids Art Center*
  - *HyperStudio*
  - *Kid Pix* (series)

Sample Activity

The Three Little Pigs

The Three Little Pigs is a fairy tale familiar to most young children. The characters gain experience in solving problems and making choices, some good and some not so good. The story contains lines that young children love to say over and over, such as *Little pig, little pig, let me come in, Not by the hair on my chinny-chin-chin,* and *Then I'll huff and I'll puff and I'll blow your house in.* Many versions of the story are beautifully illustrated by many artists. Find one you like and read the story. This story lends itself easily to a study of wind.

Teacher's Role

Provide a space large enough for children to build the pigs' houses. This area could be located temporarily in the music center if "Three Little Pig" songs are also being used. Read the story and keep copies of the book in the reading center. Discuss with the children the types of materials that could be used to build the houses. Have a variety of building materials such as unit blocks, foam blocks, and hollow blocks available for the children to use. Some teachers use appliance boxes as pig homes and have children bring in sticks and straw to glue to the boxes. Sponge paint to depict bricks for the brick house.

Outcomes

Children will learn that the story of *The Three Little Pigs* has a beginning, middle, and end. They will begin to recognize the sequence of events that take place in the story. Children will acquire an interest in reconstructing the story or inventing a story of their own.

Children will explore the building materials to create the pigs' houses. When creating their own renditions of the houses, they will apply their own rules as to how strong the houses are and how powerful the wolf is. Children will construct their own understandings of key components of the story.

Children will investigate how strong some of the building materials are. They will compare their thinking about story elements to that of others. They will make comparisons about what else could "blow a house in," such as a hurricane or tornado.

Children will apply their learning in new ways by incorporating their building knowledge to new projects. They will be able to predict the sequence of events in other stories based on knowledge gained from these activities.

Materials Needed

- Story of *The Three Little Pigs*
- Variety of building materials, blocks of different types
- Songs about The Three Little Pigs
- Props, such as puppets or masks

Procedure

Set up a dramatic play area for reenactment of the story. Read the story, *The Three Little Pigs*, to the children. Encourage children to join in saying or signing the repetitive phrases. Distribute props to encourage children to participate in the story. Stimulate their interest in building the houses and reenacting the story.

Adaptations

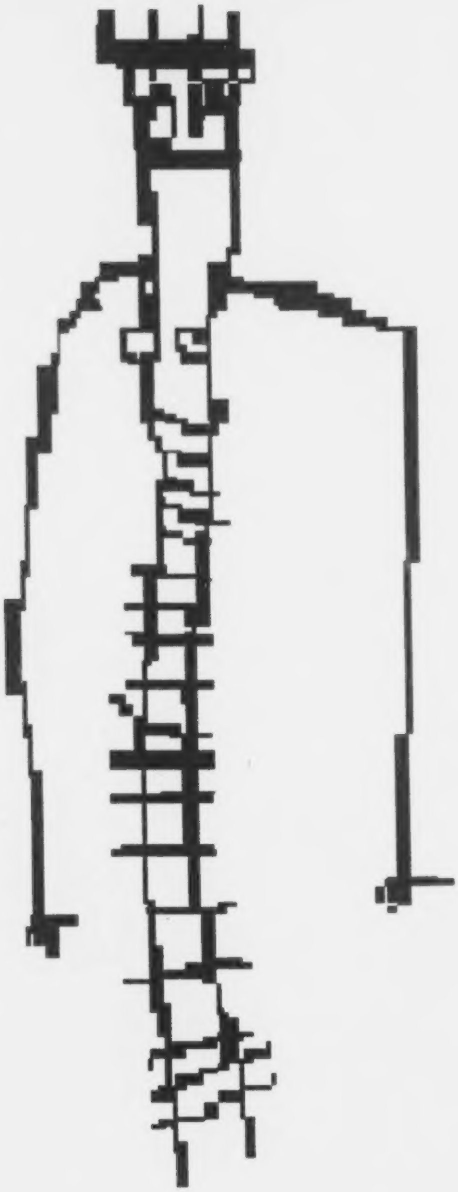
- Use signing as you read the story and sing along with the music.
- Place Velcro strips on building blocks.
- Create houses on the computer.
- Use Discover:Switch or TalkPad to program the repetitive phrases from the story so nonverbal children can participate.

Computer Software Applications

Software titles that enable children to build with geometric shapes:
Macintosh or PC compatible
Gryphon Bricks
Millie's Math House
Blocks in Motion

Related Activities

- Create pig and wolf masks from paper plates, crayons, markers, glue, and craft sticks.
- Provide straw, sticks, and small stones as collage and construction materials so children can create pig houses. Children can be encouraged to verbally compare and contrast the variety of textures of the materials. Provide descriptive words like *rough, smooth, bumpy, scratchy.*
- Blow on the materials and see which material blows away the easiest and which material takes the most "huffing and puffing" to blow away.
- Listen and move to Greg & Steve's *The Three Little Pigs Blues*. It's a lively tune, so be sure to provide plenty of space in the music area for moving to the rhythm of the music.

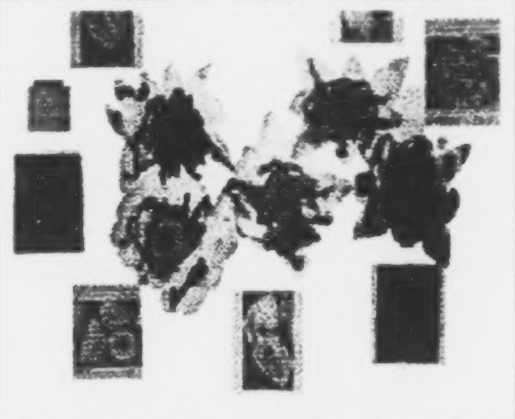


Chapter Eight
Integrating the Arts into Early Childhood Experiences

Integrating Expressive Art Experiences

Bringing the student's world into the classroom
is the most relevant act a teacher can perform.
Marc Robert

Young children show positive outcomes and meet individualized goals as they participate in the expressive arts when these experiences are developmentally appropriate, activity-based, child-centered, and integrated into the routines of ongoing daily activities. These outcomes can be achieved in early childhood classrooms, special education classrooms, and inclusion classrooms.


Children study flowers by Georgia O'Keefe.

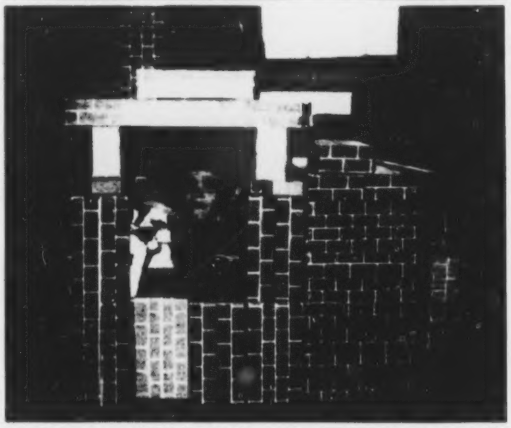
When the arts relate to projects, themes, or topics of interest to the children, such as a new highway being built in front of the school, meaning and experiences magnify. When adults reflect on the educational goals for a particular child, many strategies to achieve those goals present themselves during expressive arts activities.

Sometimes a child shows a high interest in dolls because there is a new baby at home. If one educational goal is to learn how to button and zip, doll play can lead to buttoning and zipping, opportunities for sharing, taking turns, asking questions, and carrying on conversations.

We do not learn in isolation, nor do we learn only one thing at a time. Learning outcomes and content are linked together. When children draw, they learn about the attributes of the particular marking instrument, the differences between markers, crayons, and pencils, the texture and color of the paper, the necessity for sharing materials, where the materials are kept, and what to do when finished. And they probably learn more than that.

When teachers observe, then arrange materials and appropriate activities, they help children make connections between their experiences, knowledge, interest, and skills. The following anecdote illustrates how to help a child make such connections.

When Ricky's grandmother got a new four-wheel drive vehicle, his block constructions, vehicle play, drawings, and paintings reflected an event significant to him. Staff picked up on his interest and facilitated it by involving Ricky in a study of vehicles. Roads and places were painted on butcher paper for the vehicles. Pretend trips with other children necessitated choosing a driver, passengers, and a destination, as well as selecting props. New destinations were chosen based on real field trip experiences and resulted in pretend trips to the grocery store. One of Ricky's educational goals related to interacting appropriately with other children while another related to participating in class activities. The arts provided a way for him to meet these goals.



Discipline Based Art Education

The expressive arts disciplines involve the processes of making art, aesthetics, art criticism, and understanding the historical value of the arts connected to experiences in the child's world (Eisner, 1987; National Endowment for the Arts, 1994). With teacher facilitation, young children can describe, analyze, interpret, and communicate their feelings about what they have created, as well as other children's creations.

Expressive Art Production

Producing visual art, music, expressive movement, or pretending, role playing, and reenacting during dramatic play requires that children think of an experience, idea, or feeling and then create symbols to express it. Producing art is a highly symbolic activity. Thinking about something not present and finding a way to express it is a major cognitive accomplishment for young children, as is pretending to be a parent, baby, firefighter, shark, superhero, or monster. As children create, they organize their thoughts and actions into patterns, sounds, movements, and symbols. Decisions may include how to fit two pieces of wood together, where to place pieces of colorful paper on a collage, or which colors to use to express an idea at the easel. Children reason, invent, solve problems, and create.

Aesthetics

Create a classroom environment that is inviting and arrange it with displays of children's drawings along side reproductions of adult professional artists. Have children bring collections of their treasures to school to share with the class. Set up a special area for displays, making sure the displays are at the children's eye level. Create a storytelling area with puppets and flannel board stories; a block area containing play props such as small toy vehicles and people; an art and writing center where stories can be developed, illustrated, and shared; a dramatic play area set up with housekeeping materials and equipment; and a computer center with appropriate and interactive expressive art software.

Make music heard at times of the day other than teacher-led circle time. Create a music center that is child-accessible with musical instruments, a tape player, and a variety of music from which to choose. Add scarves or streamers for moving to the music. Play music during art activities and at other times. Be sure to play more than traditional children's songs; play music that reflects classical tastes or other cultures. Many quality commercial audio and video tapes of classic children's literature and music are available.

Display reproductions of visual art (postcard to poster size) by professional artists in the classroom. These reproductions are usually available from museums or bookstores. Most museums have an educational division with a variety of resources. Displaying art work in the classroom gives children the benefit of returning to it often on their own which may stimulate spontaneous art production. Use the reproductions to engage children in warm, informal, and lively discussions about their favorite drawings and paintings. Relate creative, open-ended questioning to the developmental levels of the children.

Duplicate sets of art postcards can be used for more than a display. Children can play matching games or sort and classify by several criteria including by subject or object, by use of light and dark colors, or by degree of abstraction. This classification requires that young children look carefully; it compliments young children's developmental stages of perceptual and intellectual abilities allowing for responses through meaningful conversations. A group of art post cards by various artists depicting the same subject (e.g., horses) can be used to invite the children to dictate make-believe stories about the pictures. A group story could develop about a large poster-sized reproduction displayed in the classroom.

Children can become aware of and value visual art in their everyday lives. Many of today's children's literature is illustrated beautifully by well-known artists. Have such literature available in the classroom for the children to view. Be available to read to children often, pointing out the beautiful art work. Chapter 12 contains children's literature resources.

Children's literature and poetry are excellent ways to bring dramatic play to the classroom. Select books that both you and the children enjoy. Start by showing the illustrations and inviting the children to predict what will happen in the story. Asking, *What do you think will happen next?* develops sequencing skills. Talk about the characters, the setting, and the plot. Children enjoy reenacting their favorite fairy tales. Some that may become favorites include *The Three Billy Goats Gruff*, *Goldilocks and the Three Bears*, *The Tortoise and the Hare*, *The Three Little Pigs*, and *The Pokey Little Puppy*. Provide a few props to extend play and reenactment. The dramatic play environment can be flexible enough to be rearranged and designed to fit on-going improvisational dramatic play ideas. Props can be open-ended enough that a piece of fabric used as an apron while the child pretends to cook pancakes one day, will be used as a super hero's cape the next. Children can use creative abilities to problem solve, plan, gather, and improvise with a few well-chosen props.

History through the Expressive Arts

Children can gain knowledge about the contributions artists and the expressive arts make to culture and society. Use the resources in your community such as museums, local artists, high school or college music, art, and theater departments. Invite a local artist to visit your classroom.

Plan a series of field trips to an art museum, a high school or university art department, or to an artist's studio. Ask family members to accompany the children and staff on the trip. Plan the trip so the time is divided into small blocks to look at art work without becoming bored or overstimulated. Use other blocks of time for breaks for snacks and toileting. Before the trip, assist the children in developing lists of things that they know and want to ask about while on the field trip. Focus on a single process, such as drawing, during the trip rather than an overview of many different processes. Point out drawings that were done long ago and compare them with recent drawings. See if the children recognize drawings they have seen before, such as the reproductions in their classrooms.

Ask a parent or staff member who likes to videotape to record the visit. If videotape is not possible, take photographs or slides. Be sure to include pictures of the children as well as the drawings. Show the videotape, pictures, and slides when back in the classroom to remind the children of what they saw on the trip. As the children respond to their memories of the trip and compare their original understandings to their new knowledge, tape the discussions and conversations.

Develop a group story about the trip on large size paper or on the computer, dictated and illustrated by the children. The story can be bound and placed in the library corner. Stories can also be copied, bound, and sent home with each child.

Music history can be explored as children share favorite family songs or the teacher introduces children to music and musicians of long ago and musical sounds and dances of other cultures. Some dances are of celebration, while others tell a story. Children may discover that some dances of Native American, Caribbean, and Asian cultures center around animals. Comparisons can be made of how different cultures interpret the movements of the animals.

Story telling can be used by the teacher or the children to experience family history through dramatic play. Involve children in telling family stories about picnics or trips to visit grandparents. Children can share pictures of Mom, Dad, or grandparents as they looked when they were small children. Children can compare things that might be the same or different between the time that Grandpa was a little boy and now (the types of clothes he wore, the games and toys he played with). Help build memories by verbalizing or questioning. Ask, *Remember when ...? What did he do? How do you think Grandpa felt when ...?* to encourage communicating memories.

The teacher can link memories of the past to the present. Children might ask their grandparents about favorite songs they sang when they were very young. Children could share the songs with the class. The children might be surprised that a song they enjoy today was a favorite long ago. Children may choose to pretend play "grandma and grandpa" as children. Pretend play and reenactments can be videotaped and photographed to be used by the children later for reflection. Drawings and paintings can be made as studies to gain further knowledge of "when Grandpa and Grandma were little like me."

Figure 5. Expressive Arts Vocabulary

Expressive Arts Vocabulary

When helping children talk about their art work and the art work of adults and peers, use expressive art vocabulary. This will help the children to gain new words to express how they perceive their marks, shapes, forms, or images and how they feel about their work.

Sensory Elements	
Lines	Lines are moving elements. They can be *straight, crooked, curved, slanting, thick, thin, edge, smooth, jagged, long*, or *short*. They can be *horizontal, vertical*, or *diagonal*. Lines can be single or multiple. Lines can be *wavy* or *zig-zaggy*. They can make shapes or forms. The child's body can create a line as it moves during dramatic play and responds to music.
Sound and Movement	Sound and movement have direction. They can be *fast* or *slow, high* or *low, loud* or *soft, beside, above*, or *under*.
Form and Shape	Form and shape can be precise or amorphous (irregularly formed), positive or negative, many or single. Forms and shapes can be *large* or *small* and *flat, bumpy*, or *round*. They can have names like, *square, rectangle, triangle*, and *circle*.
Space	Space is the area around or enclosed by forms. It can be positive, negative or over-lapping. Space can be *far, near, high, wide, deep, close, beside, inside, front, back*, and *middle*.
Color	Colors have *value, intensity, tint*, and *shade*. Colors have names. They can be *warm* or *cool, light* or *dark*. There are primary colors, secondary colors, complementary colors and contrasting colors.
Texture	Texture can be *soft, fuzzy, rough, smooth, bumpy, hard*, or *slick*. Texture can be achieved through simple or complex patterns and by varying or mixing the tools and materials used.
Formal Elements	
Balance	Balance in visual art can be *symmetrical* or *asymmetrical*. Symmetry is when forms, lines, and spaces are equally *balanced*. Asymmetry is when line, color, form, space, and texture are used to create an *unbalanced* look. Balance is created in music, movement, and dramatic play by using sound, body movements, and play props.
Rhythm	Rhythm is the repetition of elements like sound, beat, movements, shape, size, color, and placement of form. Rhythm sequences may be *simple* or *complex*. Rhythm is used to unify and to provide variety.
Technical Elements	
Expressiveness	Expressiveness is communicating a mood, emotion, or idea. Intense energy, emotion, and mood can be communicated through visual arts, music and movement, and dramatic play. Pretend play can help children find acceptable ways to express their feelings. The expressive art areas are safe environments to explore a wide range of emotions such as the role of a comforting parent, a crying baby, or an angry monster.

Art Criticism

Children can respond to characteristics about the expressive arts in their world. They can make judgments and draw conclusions about art works based on concrete information gathered while looking at or handling the art work. Figure 5 refers to expressive arts vocabulary that can be used in early childhood settings while describing, analyzing, and interpreting works of art. Children can identify sensory elements such as line, shape, color, sound, movement, texture, or space. *What do you see, hear, or feel?* Children can learn about formal properties, such as how the artist has organized the work using balance and rhythm. *Notice how some of the objects go off the page.*

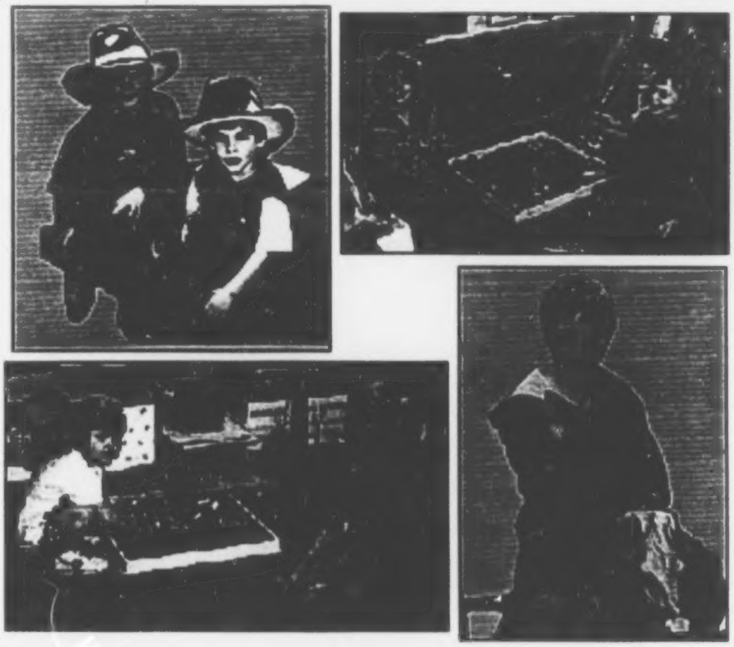
Why do you think the artist did that? Children can develop an appreciation of expressive elements like feelings, moods, emotions, or ideas communicated when viewing the art object. *How does the picture (or music) make you feel? Why?* Children can learn technical properties, such as how well they think the artist used the materials to communicate an idea. *What do you think of the art work?* Accept and record all children's ideas.

The Project Approach

A project is an in-depth investigation of something worth learning (Katz, 1993). The investigation can be undertaken by a small group of children within a class, the whole class, or by an individual child. The key feature of a project is that it is a research effort deliberately focused on finding answers to questions about a topic either by the children, the teacher, or the teacher working with the children. The goal of the project is to learn more about the topic rather than to seek right answers to questions posed by the teacher. Visual art activities engaged in during project work, in early childhood, include drawing, painting, and constructing with three-dimensional materials. Children also make sounds and music, have dramatic play experiences, and begin emergent writing.

Projects

A project or theme integrates the expressive arts through investigation and use of art media. In Reggio Emilia, Italy, the expressive art media are referred to as "the hundred languages of children" in the city's schools (Gandini, 1993). Adults see each child as unique, strong, and full of potential, a stark contrast to the deficiency-approach in many American schools. The child's role in the classroom is to construct knowledge and develop skills through explorations, self-expression, and collaboration with teachers and peers. To enhance creative, social, and cognitive development, a wide array of creative media and activities are introduced. These help children represent their ideas and emotions through many *languages*, including spoken and written words, visual arts, drama, music, and movement. Children learn through cooperating with other children and teachers in long-term projects based on children's interests and the use of creative arts as central features of the program. Project themes follow the children's interests, curiosity, and understandings. Key elements are the importance of time and the environment, the role of the teacher as partner and co-constructor, and the role of the family as active participants and advocates for the schools in the community.



Farm Project

Projects are an important part of an integrated curriculum. When children participate in a project, they are gaining and using information for all areas of the curriculum. When areas of the curriculum are studied in isolation, children often are not able to understand how these content

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areas relate to their world. However, when children work using a project approach, they take a topic and learn about every aspect of that topic. Rather than being isolated, content is integrated in a meaningful manner.

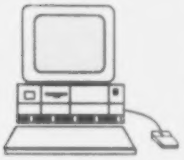
Criteria for Selecting a Topic for a Project or Theme:

When choosing a topic for a project, Katz (1993) suggests the following criteria.

- The topic should be closely related to the children's everyday experiences.
- The topic should allow for integrating a range of subjects such as science, social studies, and language arts.
- The topic should be rich enough so that it can be explored for at least a week.
- The topic should be one that is more suitable for school than home.

Projects and themes work well if the adult observes children closely, develops related activities around the topic using children's strengths and interests, and are developmentally appropriate. A theme can be a broad concept such as "Transportation," "Nutrition," "Gardens," or a specific topic related to a recent field trip or the new baby at home. Assemble books, posters, art materials, dramatic play props, songs, and other materials related to the topic for children to explore and gain new knowledge of the topic.

Once the topic has been selected, "brainstorm" with the children to find out their current understandings of the topic by making a list or a web. (For more information on making a web see the next section on developing webs.) Children relate their own past experiences and knowledge of the topic and what they would like to find out or investigate about the topic. From this information, the teacher can plan activities that will facilitate investigation and new knowledge about the topic.



Integrating the Computer

Including computers ensures equal opportunities for all children and provides opportunities for them to learn in a variety of ways and at a pace that meets their individual needs. Software programs and Internet web sites can be integrated into projects and themes related to the expressive arts. Create a school or classroom home page and display children's art work as well as documentation of children working on current projects. Many exciting web sites exist including: The J. Paul Getty Museum, The Metropolitan Museum of Art, The Museum of Modern Art, The National Museum of American Art, and The Kennedy Center for the Performing Arts. Listed below are several commercially available software also available.

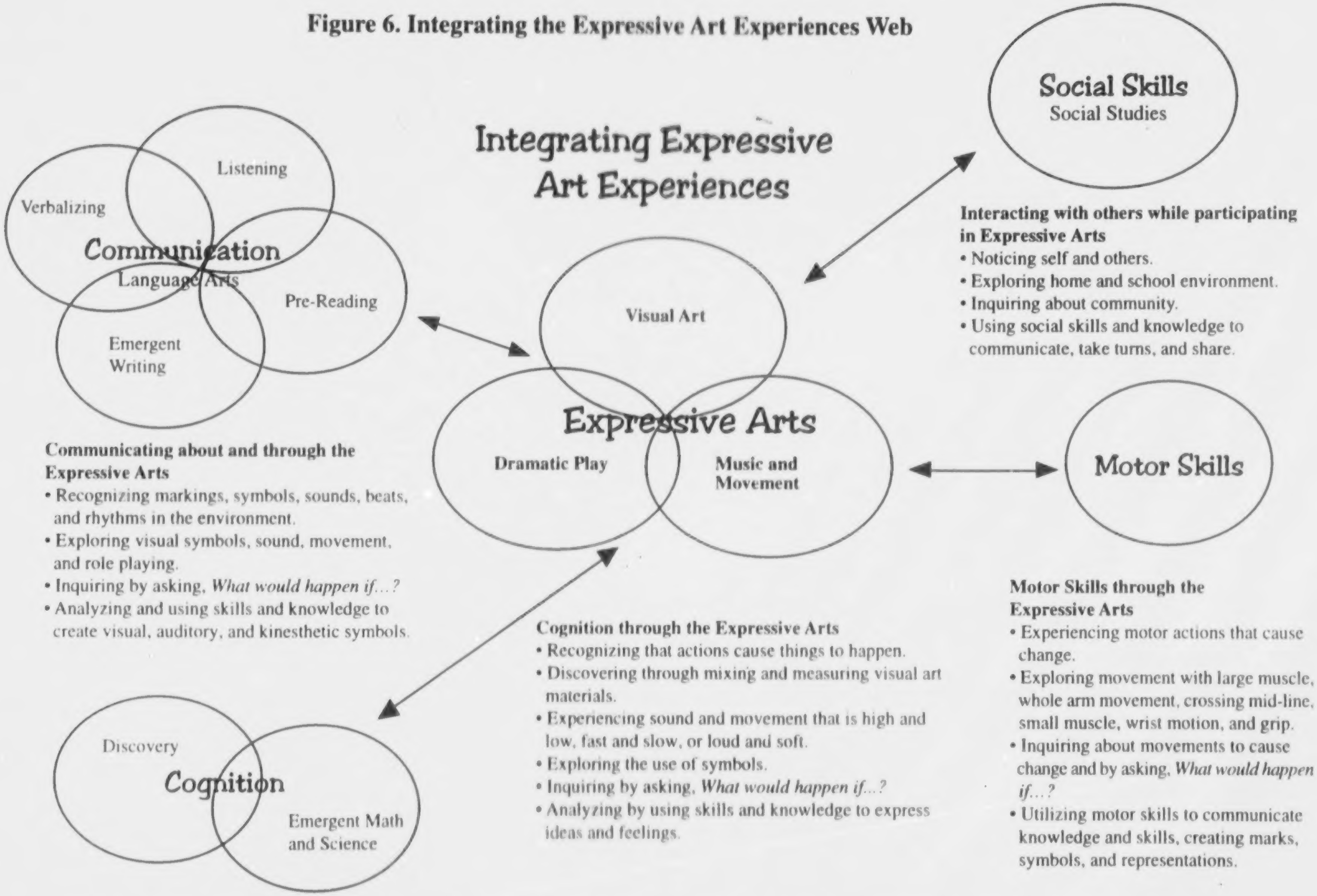
ArtSpace contains three sections: an Adult Gallery, a Studio, and a Children's Gallery. Each gallery consists of many rooms of art work to explore, video of art processes, music, and close up views. The Studio is a simulated draw and paint program specifically designed for young children with disabilities.

© copyright Macomb Projects

With Open Eyes introduces children to over 200 images owned by the museum. Children can click on any art work to see a retailed section. The collection is accompanied by audio clips, games and puzzles.

look what i see! contains five sections: Mood, Color, Shape, How to Paint, and Parent/Teacher Reference. Slide shows in each activity introduce many concepts and children can make connections between art and the world around them.

Figure 6. Integrating the Expressive Art Experiences Web


Integrating Expressive Art Experiences
Communication
Verbalizing
Listening
Language Arts
Pre-Reading
Emergent Writing
Expressive Arts
Visual Art
Dramatic Play
Music and Movement
Social Skills
Social Studies
Motor Skills
Cognition
Discovery
Emergent Math and Science

Interacting with others while participating in Expressive Arts
- Noticing self and others.
- Exploring home and school environment.
- Inquiring about community.
- Using social skills and knowledge to communicate, take turns, and share.

Communicating about and through the Expressive Arts
- Recognizing markings, symbols, sounds, beats, and rhythms in the environment.
- Exploring visual symbols, sound, movement, and role playing.
- Inquiring by asking, *What would happen if...?*
- Analyzing and using skills and knowledge to create visual, auditory, and kinesthetic symbols.

Cognition through the Expressive Arts
- Recognizing that actions cause things to happen.
- Discovering through mixing and measuring visual art materials.
- Experiencing sound and movement that is high and low, fast and slow, or loud and soft.
- Exploring the use of symbols.
- Inquiring by asking, *What would happen if...?*
- Analyzing by using skills and knowledge to express ideas and feelings.

Motor Skills through the Expressive Arts
- Experiencing motor actions that cause change.
- Exploring movement with large muscle, whole arm movement, crossing mid-line, small muscle, wrist motion, and grip.
- Inquiring about movements to cause change and by asking, *What would happen if...?*
- Utilizing motor skills to communicate knowledge and skills, creating marks, symbols, and representations.

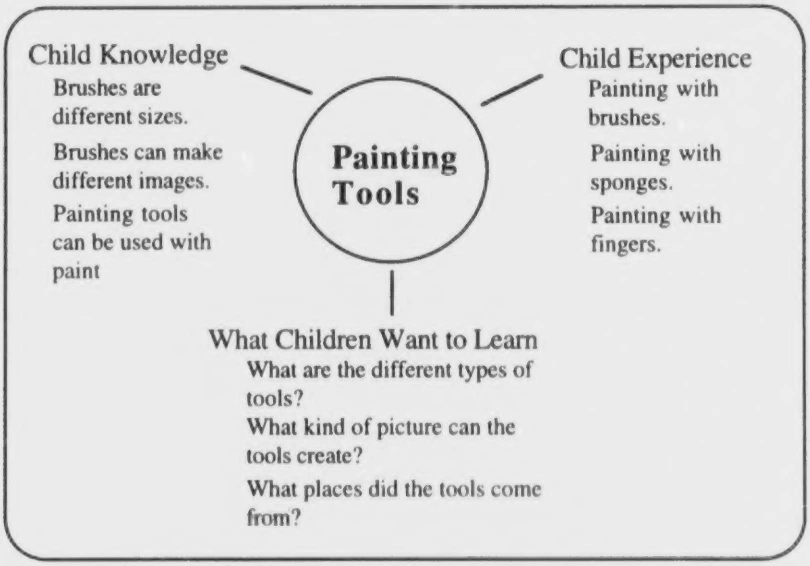
In the *ArtExpress* Curriculum, each domain or content area can interact and be integrated with the others. The integration can include developmental sequencing, materials and equipment, adaptive devices and procedures, and developmentally appropriate computer software, adaptations, and peripherals.

Webbing

A web is a map of brainstorming ideas and concepts that makes up a topic, theme, or project. One advantage of a topic web for planning curriculum is that the ideas can be generated in any order; no sequence is dictated by the form of the web. Figure 6 illustrates an intergrated expressive arts web. The following section includes examples of sequence planning.

Observe the general interests of the group and the individual interests, abilities, and disabilities of children. Begin with a topic that reflects this interest, knowledge, and ability. The topic must be about something which at least some, if not all, of the children have firsthand knowledge or experience. With a small group, involve children in the webbing process through questioning. Find out what they know and what they want to know about a topic. The information gained from this process forms the primary web. Figure 7 is an example of a primary web.

Figure 7. Primary Web



Child Knowledge

Brushes are different sizes.

Brushes can make different images.

Painting tools can be used with paint

Painting Tools

Child Experience

Painting with brushes.

Painting with sponges.

Painting with fingers.

What Children Want to Learn

What are the different types of tools?

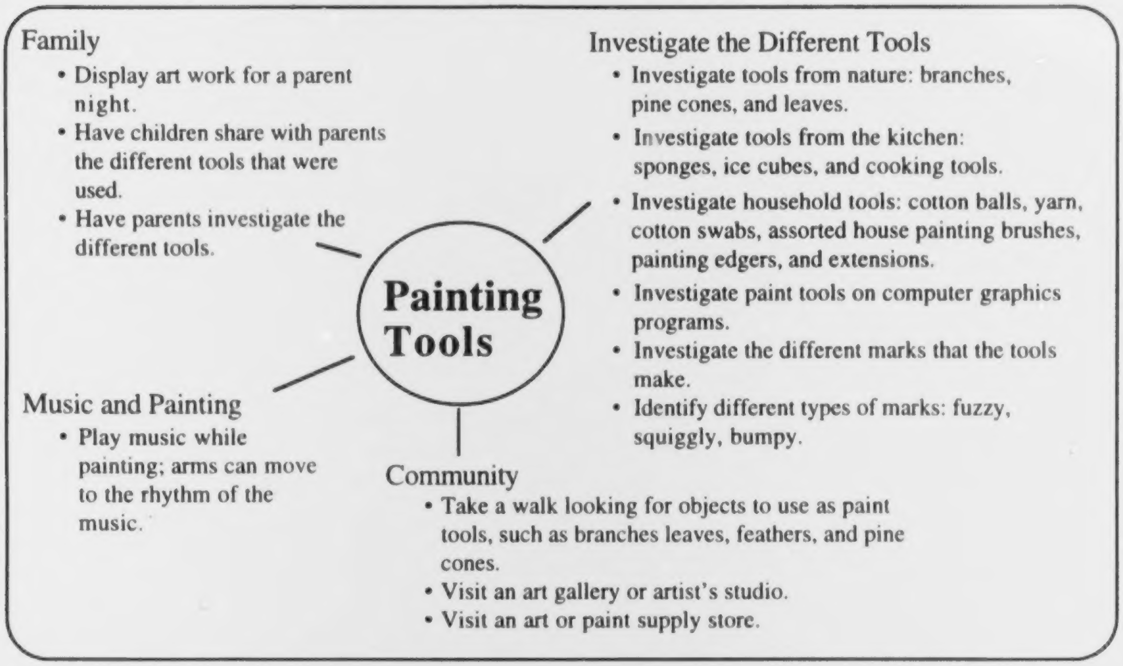
What kind of picture can the tools create?

What places did the tools come from?

After observing that many children show a high preference for painting, introduce a basket of painting tools at small group time. Include both traditional paint brushes and paint rollers along with nontraditional paint tools, such as branches, pine cones, leaves, sponges, ice cubes, cooking tools, cotton balls, yarn, cotton swabs, assorted house painting brushes, painting edgers, rollers and extensions, roller bottles, and dabber bottles. Children may be familiar with a majority of the tools. As the tools are passed from child to child, talk about the size, color, shape, texture, and feel of each tool. Ask children to how the tool is used everyday and how it would work as a painting tool. Use sign language for children who communicate in this way.

Create a second web. This brainstorming web (created alone or with colleagues) helps use personal knowledge and resources to plan experiences and activities around the topic. Adults often underestimate their own knowledge and how much young children can learn from real objects, people, places, and books. Preliminary planning through the webbing process increases awareness of how much is known or not known about a topic. Organizing ideas by domains and learning activities associated with them helps ensure that the topic is integrated into all domain areas. The ideas generated during the web mapping process should not advance too quickly. Children need to investigate over time. Not all children will want to participate in all activities. The topic should be on-going, not rushed. By following the children's changing interests, the investigation can take many avenues. Figure 8 is an example of some teacher ideas for planning and adapting activities around the topic that was chosen.

Figure 8. Teacher Ideas Web



Painting Tools

Family
- Display art work for a parent night.
- Have children share with parents the different tools that were used.
- Have parents investigate the different tools.

Investigate the Different Tools
- Investigate tools from nature: branches, pine cones, and leaves.
- Investigate tools from the kitchen: sponges, ice cubes, and cooking tools.
- Investigate household tools: cotton balls, yarn, cotton swabs, assorted house painting brushes, painting edgers, and extensions.
- Investigate paint tools on computer graphics programs.
- Investigate the different marks that the tools make.
- Identify different types of marks: fuzzy, squiggly, bumpy.

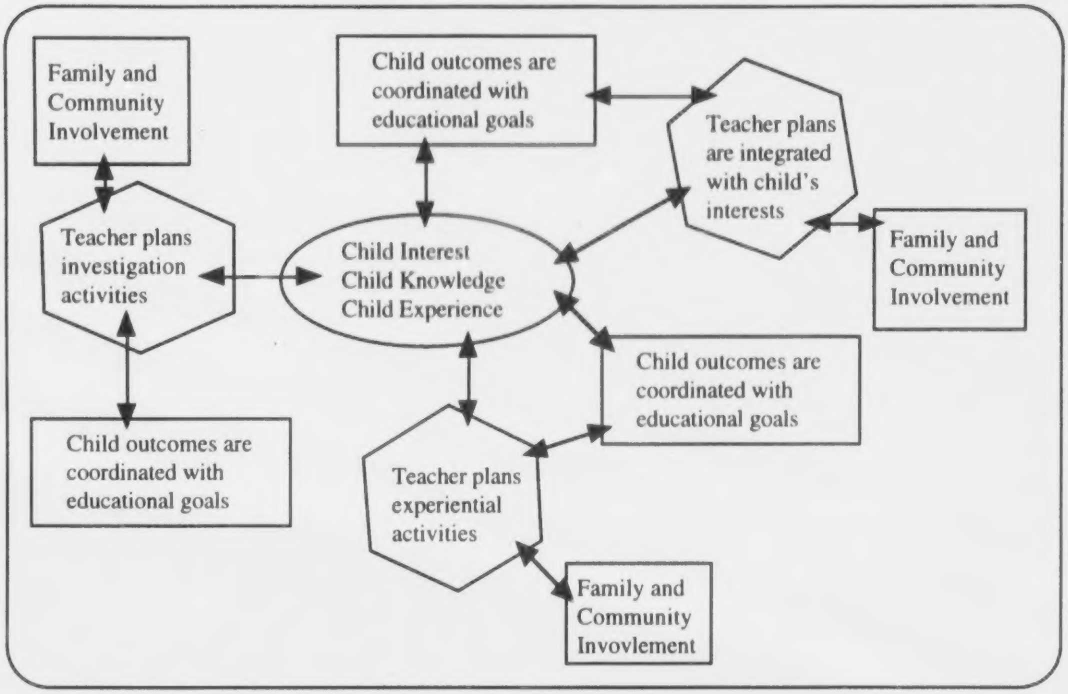
Music and Painting
- Play music while painting; arms can move to the rhythm of the music.

Community
- Take a walk looking for objects to use as paint tools, such as branches leaves, feathers, and pine cones.
- Visit an art gallery or artist's studio.
- Visit an art or paint supply store.

Send a note home to families explaining the project and ask them what types of painting activities the child enjoys doing with the family at home. Ask children to bring paintings from home to display in the classroom. Organize a field trip to an art gallery and invite family members. Make sure to inquire about and arrange for accessibility of wheelchairs and walkers. Children can investigate the many different kinds of tools, including tools from nature, household and kitchen tools, and paint tools found on computer graphics programs. Make paint and the tools available at the art table so children can discover the many ways to paint with the different tools. Take the children outside and set up a paint area with unusual painting tools. Usually in an outside area children have more room and don't have to worry so much about paint drips.

Interactive webbing shows theme or project building beginning with the child's interests. It is neither teacher prescriptive nor teacher reactive. Interactive web mapping begins with adult observations of children in the classroom and dialogue between adults and children. Rather than packaged, pre-planned collections of activities, the curriculum developed from this webbing process becomes a balance of teacher, family, and child contributed ideas, reactions, and experiences. Through interactive webbing, children make a major contribution while adults are clearly the decision makers in the process. Teachers and families monitor input from the children and decide appropriate responses. With interactive web planning that involves the children's knowledge, experiences, and interests, each curriculum is unique to each group of children and adults in a particular environment. Figure 9 shows the web mapping process that includes the child interest, knowledge, and experience, teacher planning activities, family and community involvement, and child developmental milestones.

Figure 9. Web Mapping Process


Family and Community Involvement
Child outcomes are coordinated with educational goals
Teacher plans are integrated with child's interests
Teacher plans investigation activities
Child Interest Child Knowledge Child Experience
Family and Community Involvement
Child outcomes are coordinated with educational goals
Child outcomes are coordinated with educational goals
Teacher plans experiential activities
Family and Community Invovlement

The following section contains detailed sample activity plans for three integrated thematic units, The Grocery Store, Trees in the Fall, and The *ArtSpace* Museum. They are included to give teachers and families an idea of how to develop projects for their own classrooms.

Sample Activity

The Grocery Store

When planning an integrated unit, be aware of the children's interests, abilities, and life experiences. A visit to the grocery store falls into the realm of everyday life for most young children, including children with disabilities. Find out what the children already know about the grocery store and what else they would like to learn. Parents can also be involved in the planning.

Teacher's Role

Prepare children for the field trip by reading books on the subject, bringing in examples of food items bought at a grocery store, and involving them in discussions about their experiences at a grocery store. Some examples of questions might include: *What do you do when you go to the grocery store? What do you like to buy at the grocery store? What happens to the food you buy at the store once it gets home?* Make a list of the children's favorite food items. As a group, pick some to purchase while at the store for the Tasting Party. Have children make invitations and invite parents to come along to the store and to come to the tasting party.

Taking field trips provides young children with disabilities the initial contact and background that will later assist them in developing the social and vocational skills important in adulthood. Before the trip, make sure the grocery store is wheelchair accessible. During the trip, help children observe colors, shapes, environmental print, and have them name the foods they recognize. Try to arrange with the grocery store manager or the person responsible for the tour to allow each child to bring something (a flyer, a coupon) back from the field trip. Purchase food items from the list the children made.

After the trip, have the children draw thank you pictures either with markers or crayons or on the computer. They could draw their favorite things or something they remembered from the visit. Send these to the manager of the grocery store, along with a thank you note.

Outcomes

Children will develop interest in the grocery store and other points of interest in the community. They will experience the behind-the-scenes activities of the grocery store (meat department, bakery, and produce department) and recognize favorite food and non-food products through environmental print, such as the store displays and grocery store ads in the newspaper. Children will become familiar with the farm-to-market system.

Children will explore the different roles (cashier, manager, stocker, bagger) of the grocery store. They will collect information about the marketing process from ads and coupons in the mail. Children will try samples of food or merchandise in the store. They will discover the concept of paying for goods and services.

Children will examine the changes in floor display and prices changes throughout the year. This can be done by taking pictures each time the class visits the grocery store and then looking at them. They will compare the similarities and differences among foods, grocery stores, and other retail stores. Children will investigate how technology impacts their world when at the grocery store and changes found in the retail world through literature and interviews.

Children will use knowledge gained from these experiences to create nutritious snacks at the Tasting Party. They will apply their new skills to the classroom through role playing in the dramatic play area.

Literature

- Books related to grocery stores and food:
  Ahlberg, J., & Ahlberg, A. (1978). *Each peach, pear, plum*. New York: Scholastic.
  Anno, M. (1984). *Anno's flea market*. New York: Philomel Books.
  Carle, E. (1989). *The very hungry caterpillar*. New York: Scholastic.
  Grossman, B. (1989). *Tommy at the grocery store*. New York: Harper & Row.
  Lobel, A., & Lobel, A. (1981). *On Market Street*. New York: Greenwillow.
  Oxenbury, H. (1990). *Tom and Pippo go shopping*. New York: Macmillan.
  Rockwell, A., & Rockwell, H. (1979). *The supermarket*. New York: Macmillan.

- Point out and discuss the style of art each illustrator used (hard or soft, fat or skinny lines; soft or bright, dark or light colors). Ask questions like, *How did the artist do that?* or *What materials did the artist use to make the colors look 'swimmy'?*

- Laminate books the children created about the visit to the grocery store and include them in the book area.

- Display visual art reproductions related to the unit (large poster size and small postcard size) in the classroom at the children's eye level. Use them as topics for communication.

Art Center

- Computer Drawing: Use a graphics/draw program like *Kid Pix* for creating the thank you pictures and the tasting party invitations. The *Kid Pix* program can be adapted by the use of a TouchWindow, Key Largo, or IntelliKeys.

- Play Dough Food: Provide play dough in a variety of "food" colors (red-apples and tomatoes; yellow-bananas; green-cucumbers, peas, beans; purple-grapes, plums). Demonstrate rolling the play dough to form balls, logs and other food shapes. Encourage the children to try. Provide paper plates or containers as props to encourage extending the art activity into the dramatic play area.

- Drawing on Grocery Bag Paper: Cut the front and back sides of brown grocery bags (two sheets per bag). Because of the dark color of the paper, use drawing tools in colors that you know will show up (white or light colored chalk, Cray-Pas; black, purple, or dark blue marker).

- The Grocery List: Provide long rectangular strips of paper, index cards, computer punch cards, cash register paper, pencils, and markers. Encourage mark-making, simulated writing, and drawing pictures of what children might buy at the grocery store.

- Easel Painting: Put out "food" colors of tempera paints like red, orange, yellow, and purple. Try cutting easel paper into large food shapes and observing the children's responses (Circles for round foods like apples, oranges. Other shapes might include half circles or wedges). Use the finished paintings as displays in the dramatic play area.

- Food Collage
  1) Put a variety of magazines or newspaper ads and flyers out on the table. Have scissors and glue available. Go on a "food hunt" through the magazines. The children can tear or cut out their favorites and glue them to individual sheets of paper or to a large poster board to create an advertising sign for their play store.

2) Offer reverse Con-Tact paper boards or commercial sticky boards to children who are not able to manipulate a glue container. The children can attach the food pictures. This can be a group or an individual activity.

- Papier Mâché Food
  Materials: Small inflated balloons, newspaper strips, flour and water paste, and tempera paints.
  Procedure: This project works best if it is spread out over several days. This process can also be messy. Don't forget to wear your paint shirts! Model and demonstrate dipping the strips of newspaper into the flour and water paste (the mâché) and wrapping it around the balloon. Repeat until the entire balloon is covered. Give the children plenty of time to completely explore and enjoy this process. It's so gooey and fun! When each balloon is entirely covered, put it in the drying area (overnight works best). The next day the children can plan and decide which colors of paint to use and what food their product will become. When their creation is completely dry, it can be used in the dramatic play area.

Dramatic Play Center

- Provide dramatic play props.
  - toy shopping carts
  - plastic eggs & cartons
  - plastic bottles
  - paper bags
  - play money
  - plastic fruit & vegetables
  - food boxes (empty)
  - paper & pencils
  - aprons, shirts & name tags
  - food signs
  - counter top
  - shelves
  - cash register
  - price signs

- Encourage and facilitate making props in the art area. The finished products can be used in dramatic play.

- Role play and model to facilitate grocery store play. Children can be clerks, customers, checkers, and sackers.
  Model and invite the children to:
  - fill grocery bags with food props;
  - fill grocery cart with food; push cart around the room;
  - stack food boxes and containers;
  - sort plastic fruits & vegetables; and
  - pay for food at the checkout counter.

- Provide puppets and small manipulative toys for representational dramatic play.

- Provide music in the dramatic play area. Model and demonstrate songs and chants.

- Follow the children's lead when participating in sociodramatic play. Build on their strengths and provide opportunities for awareness, discovery, inquiry, and utilization.

- "Store" related computer software programs, such as "Fripple Shop" in *Thinkin' Things* and "Little, Middle, and Big" in *Millie's Math House*, can be adapted with a TouchWindow, a switch, Key Largo, or IntelliKeys.

Music and Movement Center

Children are active learners who learn through play. Music is play with sound. Children can both listen to and create their own music. They can use props and movements with songs.

Songs:

Gill, J. (1992). The banana song. On *Jim Gill sings the sneezing song.* Chicago: Jim Gill Music.

Gill, J. (1992). Spaghetti legs. On *Jim Gill sings the sneezing song.* Chicago: Jim Gill Music.

Jenkins, E. (1990). No more pie. On *Play your instrument and make a pretty sound.* Washington DC: Smithsonian/Folkways Records.

Palmer, H.(1972). Sammy. On *Getting to know myself.* Freeport, NY: Activity Records, Inc.

Raffi. (1979). The corner grocery store. On *The corner grocery store and other singable songs.* Willow Dale, Ontario: Shoreline.

Westcott, N. (1994). *Peanut butter and jelly.* New York: Penguin Books USA.

Chants:

- To market, to market to buy a fat pig.
  Home again, home again jiggity-jig.
  To market, to market to buy a fat hog.
  Home again, home again jiggity-jog.

- This little piggy went to market.
  This little piggy stayed home.
  This little piggy had roast beef.
  This little piggy had none.
  This little piggy cried, "Wee, wee, wee"; all the way home.

Computer Software Applications

"Store" related software:

- *Thinkin' Things*
  "Fripple Shop"—Verbal descriptions are given and the child clicks the mouse on the Fripple described. This exploratory game builds observational skills, listening skills, and descriptive language.

- *Millie's Math House*
  "Little, Middle, and Big"—The child chooses shoes for characters named Little, Middle, and Big. The shoes are also little, middle, and big.

Related Activities

Tasting Party—Involve the children in planning, preparing and serving the foods chosen and purchased at the grocery store (try fruit and yogurt dip, fresh vegetables and sour cream dip). At snack time, offer each child small pieces of a variety of foods to try. Encourage and facilitate vocalizing and socializing with parents and peers. Children can display their art projects, tell about the grocery store trip, describe the food preparation, and sing "food" songs.

Sample Activity

Trees in the Fall

Trees are part of most environments. Children can learn more about the trees in their area by exploring the different parts of the tree. Recording, drawing, and taking photographs of trees will show children how trees in their area change throughout the year.

Teacher's Role

The teacher's role is to provide a variety of opportunities for children to see, hear, feel, and smell trees. As children experience trees, the teacher can expand their interest by asking probing questions. Listed below are several activities to try for a tree project.

The best place to learn about trees is outside exploring and experiencing real trees. On a day when the weather is nice for children to enjoy the outdoors, plan a field trip to look at trees in the neighborhood or a local park. Make sure that some of the trees are wheelchair accessible. Invite children to collect leaves, seeds, acorns, and to touch tree bark. The great part of taking a "tree walk" is the sensory and tactile experience with the real thing. Provide children with tactile and concrete experience with trees, leaves, and bark. Look at sizes, shapes, colors, and textures with the children. Bring collections back to the classroom to be placed on the discovery table. If the weather does not permit being outside, children can look out the window at trees and you can bring in leaves, bark, and acorns for them to touch, smell, see, and hear.

Bring a branch from a tree to the classroom. Put it into a pot or coffee can filled with clay or florist's foam. The branch can be placed on a table or on the floor in the classroom. You now have a tree in the classroom. The children can attach real leaves to the tree with tape or string. They can also make paper leaves from construction paper and attach these to the tree.

Buy a real potted tree. The children can draw the tree, chart the growth, decorate the tree for the different seasons and unless it is an indoor tree, they could plant it in the spring.

Create a tree for the classroom that can change with the seasons. Using wire, create a shell for the trunk and branches. The trunk can be covered with papier mâché and then painted. Chicken wire can be placed over the branches and stuffed with tissue paper leaves. The colors of the leaves can change with the seasons and fall off in the fall.

Bring adult art reproductions of landscapes with trees showing fall colors to the classroom. Display the reproductions, at the child's eye level, in the classroom. Provide postcard-sized reproductions of "tree" art for responding to, sorting, and reflecting. Make books with colorful illustrations about the fall season available in the children's book area, such as:

Franco, B. (1994). *Fresh fall leaves.* Scholastic Inc.
Ehlert, L. (1991). *Red leaf, yellow leaf.* Harcourt Brace Jovanovich Publishers.

Outcomes

Children will notice changes in leaf colors and textures. They will respond to the sound of leaves crunching or rustling in the wind. Children will attend to and focus on changes in the environment.

Children will observe that some leaves change color while others do not. They will explore and investigate physical properties of trees. Children will discover creative ways to document changes through symbol making. They will construct their own understandings why and how changes take place.

Children will inquire and investigate how changes in the trees take place. They will propose explanations for leaves changing colors and falling off trees. Children will relate to prior learning about life cycles.

Children will use this learning to understand the life cycle of other living things. They will use symbols through gestures, words, movements, or drawings to communicate their knowledge about trees. Children will apply their new mastery to develop understandings of nature.

Visual Art Center

Group Art Experience—The Big Tree

Materials: "Big" paper, markers, construction paper, and glue
Procedure: Children tear paper, paint glue, and place paper pieces on the glued area of "big" paper.
Extension Idea: Hang the finished "big" tree in the dramatic play area.

Art Centers

- Take the art center outside. Go to the park or to the play yard to draw or paint trees.

- Drawing— Crayon Leaf Rubbings
  Materials: leaves, newsprint paper, and peeled crayons
  Procedure: Children place a leaf on the table; cover it with paper and rub with the side of a crayon.

- Drawing—Draw a Tree
  Materials: Large paper (try putting it at the easel or on the floor), crayons or markers in bark colors (black, shades of brown), a tree branch brought in the room (set in a pot near the art center), or a real potted tree.
  Adaptation: Try a large sheet of cardboard as a drawing surface on carpeted floors
  Procedure: Invite the children to look at the "indoor" tree. Point out how the trunk goes up and how the branches go out from the trunk. See if the children make their arms go up and out as they draw.

- Painting—Tree Prints
  Materials: tempera paint, shallow pan, and natural objects identified with trees, such as leaves, bits of bark and acorns.
  Procedure: Children dip objects into the paint, then press the object onto paper to make a print.

- Sculpture—Tree Collage
  Materials: Cardboard tubes, straws, small sticks, hole puncher, glue, and construction paper
  Procedure: Children construct tree objects from above materials.
  Alternative: The teacher can attach reverse Con-Tact paper to large poster board. The children can attach collage pieces to this sticky surface as an individual activity or as a whole group activity.

- Computer Center—Trees
  Materials: The computer drawing program, *Kid Pix*, has a tree stamp option. This program can be activated with a mouse or a TouchWindow. This program also has a print option.
  Procedure: Ahead of time, load a picture of a tree into the program *Kid Pix*. The child can then stamp leaves or create their own.
  Extension Idea: More advanced children can draw their own tree on the computer. Save the picture to disk and print out.
  Alternative: The software, *Sammy's Science House*, has Acorn Pond. Children can explore and find out what happens during different seasons.

Creative Dramatics

Tree Props
- Can you be a tree? Use your body as a tree. Children with physical disabilities can use their most reliable movement.
  - Plant your roots (feet)
  - Straighten your trunk (torso)
  - Push your branches (arms)
  - Open your small branches (fingers)
  - Feel the sun on your leaves
  - Feel the wind blowing your leaves.
- Use small pieces of cloth material in fall colors as leaf props
- Use small paper bags cut in strips and stapled at one end as a leaf prop.

Extension Ideas
- Put cloth leaves or paper bag leaves out for spontaneous dramatic play.
- Pretend to be a seed that grows into a tree.
- Revisit the tree project at different seasons of the year.

Music and Movement

Invite the children to make up their own "tree" song.
Here's one to the tune of *The Wheels on the Bus:*

The leaves on my tree go swish, swish, swish.
(or crunch, crunch, crunch.)
The branches of the tree can catch the sun...
The trunk of the tree is straight and strong...
The roots of the tree are...
All through the day.

Use technology with the "tree"song.
At the computer, use the software program *Kid Pix* and the IntelliKeys or Ke:nx and Key Largo to create a communication board for children to make a choice of which part of the tree to sing about (leaves, branches, trunk, and roots).

Snack

Tree Branches
Materials: Pretzel Sticks
Procedure: Serve with milk or juice. Encourage children to talk about how the pretzel sticks are the same as tree branches. Talk about how the pretzel sticks are different.

Green Trees
Materials: Broccoli (cut into small pieces)
Procedures: Serve with vegetable dip and fruit juice or milk. Encourage children to observe how the shape and color of broccoli is similar to a tree.

Sample Activity

The *ArtSpace* Museum

Art museums provide the environment for a wealth of experiences for children of all ages. Through the use of the software *ArtSpace*, children who are unable to walk through a museum can explore art from their computer. *ArtSpace* is a series of places where art can be viewed (in a museum with many galleries) or where art is made (in studios). *ArtSpace* provides a field trip simulation without the bus travel, the frantic search for a restroom or the never-ending walk through the long corridors. *ArtSpace* can be used for preliminary museum experiences prior to an actual field trip to a museum or to prepare children and staff for what they are likely to experience. *ArtSpace* can also be used as a follow-up activity after the field trip. Categories for *ArtSpace* images include: Collage, Lines, Music, Pottery, Sculpture, People, Cultural Diversity, Native American, Farms, Food, Transportation, Animals, Birds, Flowers and Plants, Trees and Forests, Water, and Weather and Seasons. The following activity is adapted from *A Curriculum to Accompany ArtSpace* (Hutinger, Betz, & Cunningham, 1996).

Teacher's Role

Display reproductions of adult artists and children's work in the computer area and other areas around the classroom. Before the activity, attach neccessary peripherals to the computer, if needed. These could be a switch, a TouchWindow, a Discover:Kenx, or IntelliKeys. Children can also interact with *ArtSpace* using the mouse. Position the monitor at the child's eye level and move the keyboard aside to prevent distractions. Preview *ArtSpace* prior to the activity to become familiar with the options. Open *ArtSpace*, select appropriate option under "Preferences," and have the screen ready for children to use.

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Outcomes

Children will discover that their actions cause certain events to happen. They will learn that their actions with the peripherals cause the actions on the monitor. Children will attend to the task at hand.

Children will observe the images and actions, hear the music and sounds, and figure out that their actions control the actions on the screen. They will increase their attention span while actively exploring the museum. Children will collect information about the different functions of museums in the galleries and the Studio of *ArtSpace*.

Children will examine the features of *ArtSpace*. They will propose explanations, such as *If I press the switch on the art work, it will get larger, play music, and sometimes show a movie*. Children will take turns making choices while activating the program.

Children will use the knowledge gained from this experience when looking at other art work. They will use the sequencing skills learned through *ArtSpace* in other learning situations. Children will develop increased knowledge of patterns and symbols.

Materials needed

- Macintosh computer, system 7.x., 4000K of free RAM memory
- CD-ROM Drive
- 14" color monitor or larger
- *ArtSpace*
- Appropriate peripherals: a switch, a TouchWindow, Discover:Kenx, Key Largo, or IntelliKeys

Procedure

Encourage children to make selections by activating the mouse or peripheral device. Model activating and making choices. Physically assist children to do the same if necessary. Children can choose one of two galleries, "The Adult Gallery" or "The Children's Gallery." In "The Adult Gallery," they will see works of art made by adults, some of them famous, some whose importance to the art world is yet to be recognized. "The Children's Gallery" contains art work from preschool and elementary school children. Both galleries contain examples of two- and three-dimensional art works. See video of various artists discussing their work or explaining a process, such as an adult explaining print making or bronze pouring, or children demonstrating finger painting or collage making. Listen to people's comments about each picture, sculpture, or image and use them to generate discussions with children. Ask questions such as, *What you see in this painting? What did the artist say about the drawing? Where would you like to go now?* Children can choose to go to another gallery room, go back to the lobby for more choices, or to exit the program. Encourage children to take turns when selecting images by passing the switch around the group.

Adaptations

ArtSpace can be adapted for many peripheral devices that allow children access to interacting with the software. For more information on peripherals, see Chapter 9.

- Using a TouchWindow provides a natural and direct way to interact with *ArtSpace*. Place the TouchWindow over the monitor with Velcro. Children can position the cursor, make selections, and make choices with the touch of their fingertip or the stylus.

- Switches with a switch interface allow one or more children to activate *ArtSpace*.

- Discover:Kenx is an interface that allows children to use alterate keyboards, such as Key Largo, or switches. It combines Ke:nx technology with the switch.

- Key Largo is an expanded alternative keyboard for use with Ke:nx or the Adaptive Firmware Card. Expanded keyboards are for children who need larger key areas. Larger letters, pictures, or selection areas are possible. The keyboard is composed of small squares that can be grouped into keys of any size to meet individual needs.

- IntelliKeys is an alternative keyboard that can be used with overlays for easy access to *ArtSpace*.

- Children can explore how scanning works. Select Scanning as input under "Preferences." Children can become familiar with the progression of the scanning pattern and how objects are highlighted. Once children understand scanning, this option gives them more control as they tour the museum. *ArtSpace* can also be customized for use with Key Largo.

Related Activities

- Select any of the seventeen categories in the software, such as "Lines," "Sculpture," Animals," or "Water," and design both computer and off-computer activities around that theme.

- Create an Art Gallery in the classroom. Display and label children's art work in the classroom. Feature a child as the "artist" of the week.

- Schedule a field trip to an art gallery. After the field trip encourage children to talk about what they saw. Encourage discussions and comparisons of their "real" museum tour and both the adult and children's galleries in *ArtSpace*. Talk about the people they saw at the museum.

- Make a classroom museum. If space permits, connect several large cartons or movable screens to make a child-size art museum for dramatic play. Include the people seen in a museum (other visitors, security people, tour guides, shop keeper, the director, a curator, and others). Make the museum space accessible to children in wheelchairs. Decide what to put into the museum for its opening. Children may decide to include original child art, printouts from "The Studio," art posters from museums, three-dimensional work, or other objects.

- Develop the concept of "collecting" and what might be included in a collection. Arrange collections on an "exhibit" table. Objects in the collection might be groups of block sculpture, clay images, materials to make marks with, books, sea shells, plants, toy trucks, dolls, or any number of groupings that interest children. This may lead to interest in categories, groups, and attributes. Children may want to establish their own "collection" of art or the art work of others in a book. Collections of images from *ArtSpace* can also be discussed. Search for the collections shown in the "Categories," then identify reasons why they were included. Other kinds of collections may also be displayed, including objects from nature walks.

- Provide props in the dramatic play area so children can play at taking on the various roles of people who are found at an art museum. Some props might include blocks and toy people, and a small table with "gift shop" items. The art area can be used to make posters and brochures of the latest exhibit. *ArtSpace* is contains Trevor, the gallery guide, two people who are viewing the images, artists, and children making art. A number of people oversee the day-to-day operation of a museum: the director, the curators (or keepers), the educators or tour guides, security officers, people who work in the cafeteria or restaurant, people who sell things in the bookstore or shop, conservators (who take care of the objects), publicity and publication staff, and the registrar. It takes a lot of people, each doing their own job, to run a museum. Visitors are also important to a museum. Without them, where would a museum be?

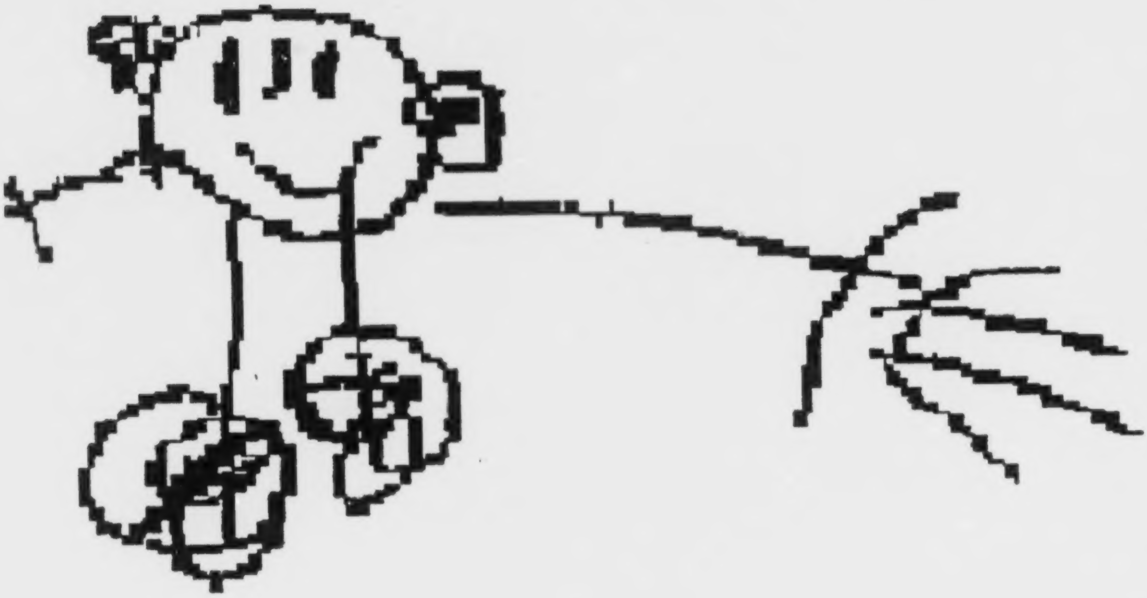
- Although *ArtSpace* does not include a museum shop, children who have visited a museum may decide to set up a shop in a part of their museum or in another part of the classroom. Dramatic play might include deciding on appropriate merchandise, "selling" works of art, using pretend money, cash registers, making change, deciding on prices, stocking shelves, and planning appealing displays. In real life, class products such as tee-shirts (with iron-on designs made with a computer and printer or painted on designs with washable paint) might be "sold" in the shop.

- Museums often have special opening parties for a new exhibit. When children finish their museum, or mount a new exhibit, have a real opening, inviting families, or another class of children, or have a pretend opening for class members only. An opening is a good time to explain the importance of art to families. Decide on special music or any special effects you may be able to secure for the opening. Children can take the role of docents, taking guests on a tour of the museum exhibit. Incorporate snack into the opening party. Children might dress in fancy costumes from the playhouse for the opening. Encourage "opening parties" during free choice time. After a real opening, children may want to relive it with a "pretend" opening. With the teacher recalling the event, the whole group can participate. Each child can add to the activity by acting out the sequence of events of the opening.

- Create a book of museum images for the library corner. Print images from "The Studio" or the "Children's Gallery" in various sizes and laminate them. Use double sets for matching games, or for more complicated games. The images can also be put together into a class book of favorites, or into books for individual children, depending upon interest. Scan children's art and print it out to make an art book. Make a group book of art that children create in the classroom for use on the library table. The books may be group efforts or books made by individual children. Include commercial books about art and artists in the library corner too.

- Collect other museum software on CD-ROM such as *With Open Eyes* from the Art Institute of Chicago or *look what i see* from the Metropolitan Museum of Art. The software can be used in conjunction with *ArtSpace*, providing further information about art and extending the number of images viewed by children and adults.

- Visit an artist's studio or invite artists to come into the classroom to share their work and ideas. If the artists are members of the children's extended family, that's even better. Ask the artists to demonstrate a short process. For example, if the artist is a potter, ask him or her to make a coil pot with clay. Prepare the artists ahead of time, requesting that they simplify the processes they show, without talking down to the children. Answer any questions the artists may have about the visit. Children prefer doing to watching others do; if possible extend or follow up (on another day) the artist's visit with an activity related to the demonstration. If the activity or project takes several days, invite the artist back to see children's finished work.



Chapter Nine
Adapting Materials

Adapting Materials

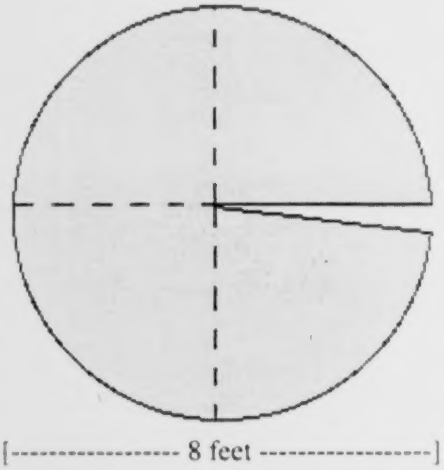
We must prepare childen for their future, not our past.
David Thornburg

Children with disabilities are children first. Access to childhood activities, including the expressive arts, is as important for them as it is for children without disabilities. When teachers know a child's strengths and potentials, as well as limitations, adaptive strategies and procedures can be developed for individual children. These adaptations can be inexpensive or low-tech, which include adaptive grips, alternative materials, and switch-activated toys or high-tech, which includes a computer with peripherals such as switches, a TouchWindow, Discover:Kenx, IntelliKeys, or Key Largo. This chapter is divided into sections describing adaptations called Visual Arts, Music and Movement, Dramatic Play, and Technology. Illustrations of some of the adaptive devices are included. The resources listed in Chapter 12 suggest other sources for low-tech adaptive tools and materials.

Visual Arts

Children with physical disabilities may have difficulty holding tools, controlling movements, or maneuvering wheelchairs and other equipment around tight spaces. Arrange and adjust the art area to meet the particular needs of the child.

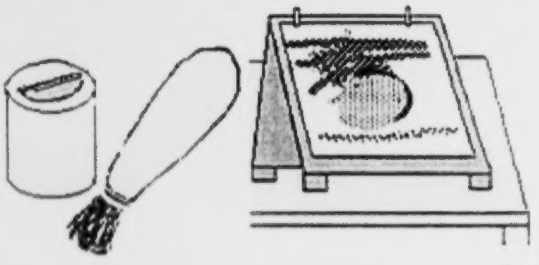
Special chairs, tables, and play equipment can be bought or made, enabling all children to participate. The best position for doing art activities for some children may be on the floor. A large, inexpensive, and portable circular "floor" can be made out of heavy cardboard. Make it large enough for several children to lie on their tummies or sit and draw with crayons, chalks, or markers. The cardboard circle illustrated is 8 feet in diameter. It is great to protect carpeted floors. The diagram shows the circle scored into quarters. Three of the four scores are not cut all the way through the cardboard. The fourth score is cut all the way through, allowing the cardboard to be folded. When not in use, this floor mat can be folded and slid behind a cabinet or desk.



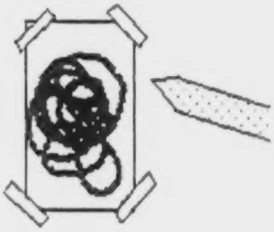
A bolster under the child's chest will allow for shoulder and arm movement. Consult with the child's occupational therapist or physical therapist to find the best positioning and support.

A child in a wheelchair may use a wheelchair tray as a surface for art work. The child should be well balanced and able to freely move shoulders and arms. If the child is prone to involuntary movements, provide enough space between this child and others so that all children can enjoy the experience.

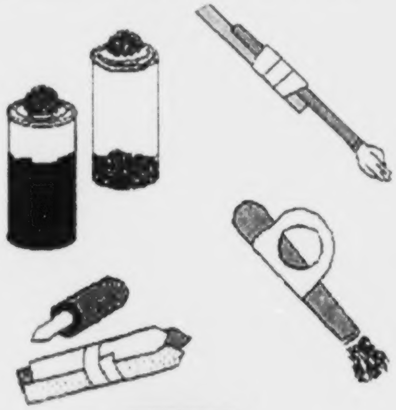
Children in wheelchairs can also work comfortably at tables, if the wheelchair arms fit easily under the table. A table top easel may be the best choice of equipment so a child in a wheelchair can paint. Make sure the table is adjustable so that the child's legs fit comfortably under it and that the easel is at the child's eye



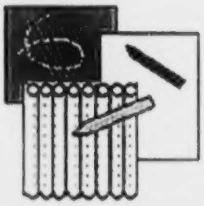
level. Chubby-handled paint brushes and spill proof paint containers help encourage and support independence. Most easels come with a paint tray attached that can hold several paint containers for color choices.



A child who is trying to draw when the paper is moving around on the table or floor may be justifiably frustrated. Tape the paper to the table or floor so it remains secure as the child draws, paints, or glues. Some children just need a couple of corners taped, while others need the entire paper taped. If you are concerned about the tape tearing the paper upon removal, use removable tape. Some children will also find it easier to easel paint if the bottom of the paper is clipped or taped. This way, the paper does not go up if the child has a strong "up stroke." The same idea holds true for using a messy tray in finger painting. What fun is it to paint if the tray keeps sliding around the table? Use a non-slip surface, like Dycem or waffle-weave shelf liner to hold the messy tray in place.

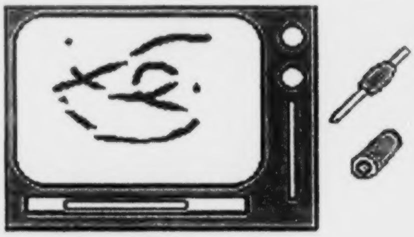


Many ways to adapt drawing and painting tools are available for children who cannot easily hold an art tool or who have a weak hand grip. Wrap tape around the handle to widen the grip or fit the handle with a piece of dense foam tubing. Add extensions to paint rollers and children can floor paint from their wheelchairs. Other ideas are to cut a slit in a racquetball, insert the tool, and have the child hold the ball to manipulate the tool or to fit the tool with a loop or strap device that can be attached to the child's hand. Dabber paints and roller bottle paints can also be used as ways to bring the painting experience to children. Children who have unstable movements or tend to make faint marks can have fishing weights or drapery weights placed on the end of the tools. Paint brushes, chalks, and crayons with rounded ends are available for children who are most comfortable with a fist grip.

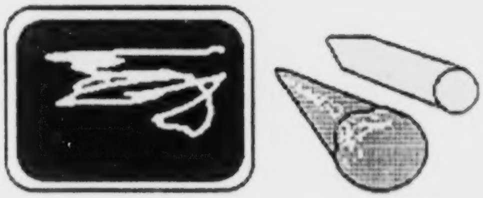


Sandpaper, felt sheets, or corrugated paper can be placed under drawing paper to provide texture, sound, and friction for a child with visual disabilities.

Finger painting need not be limited to fingers, either. Some children find it easier to paint with their toes rather than their fingers. To help children with visual impairments, use a color of paper that contrasts strongly with the color of the finger paint. Add sand, salt, or other materials to the finger paint for a change of texture. Remember, what works for one child may not work for another.

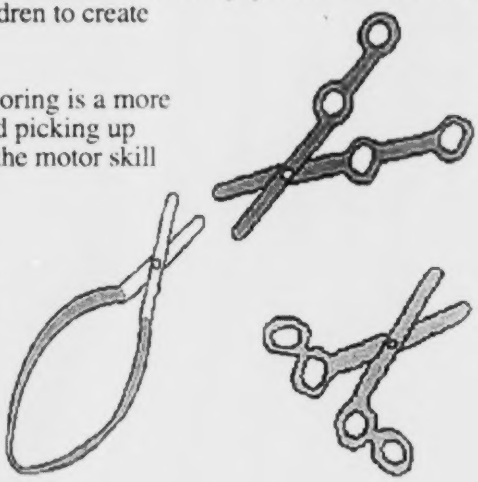


A Magna Doodle can easily be adapted for children with physical disabilities. Wrap the magnetic drawing pen in any of the ways mentioned earlier to make an appropriate grip for your children. The drawing discs and Spiral Art accessory set can be inserted and glued to the tops or bottoms of 35 mm film canisters. You can make your own magnetic drawing tools in different sizes and shapes from magnet strips and film canisters. Children are able to make marks with very little pressure. Quite an advantage for children with limited strength!



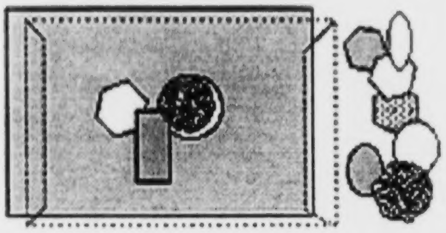
Cone shaped, chubby, and colored sidewalk chalks can be used on small portable chalk boards and fit on a wheelchair tray. Some children benefit from the sound and resistance chalks make as they are rubbed against the chalkboard.

Tearing paper requires both gross and fine motor skills. In order to tear the paper a child must grip it with fingers or hands and use arm movements to pull the two pieces apart. One way to adapt the activity is to use a small wading pool filled with paper, tissue paper, or other material for the children to tear or shred. Children can literally immerse themselves in their work. This often helps many tactilely defensive children. Some children like to proudly show their collection of brightly colored torn pieces. These can be carefully placed in an envelope and sent home with a note explaining their importance to family members. The torn paper can also be saved for later collage work. Provide glue and encourage children to create with the colorful, fuzzy-edged collage pieces.



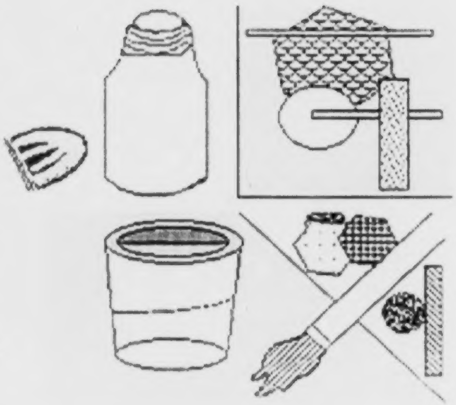
Introduce scissors to the collage making process. Scissoring is a more complex and sometimes frustrating task. Squeezing and picking up small objects with kitchen tongs help children practice the motor skill necessary for using scissors. Some scissors only cut paper, not clothing or hair. Loop scissors provide a different type of grip and come in a variety of sizes. Scissors that allow a helping hand to assist the child in cutting are available in two models, one with the extra grips in back for the teacher's fingers to guide the child, the other with the extra grips to the sides. Fiskars brand scissors are high quality, long-lasting, and easy to use by both left-handed and right-handed children. Have a variety of scissors on hand including those that cut different designs.

A sticky board, a piece of cardboard with clear adhesive paper placed on it, sticky side up, can be used for collage and wood sculpture. Sticky boards are available commercially, but come in small sizes. However, making your own sticky board is simple. Use a piece of cardboard and clear sticky paper at least 8" x 11". The end cardboard of legal pads can be collected and recycled to make great individual sticky boards that fit on a child's wheelchair tray. The diagram to the right shows the ends of the adhesive paper folded back and attached to the cardboard. Construction paper can be placed between the cardboard and the adhesive paper for added color. The protective coating is left on until the child is ready to play. The child can place objects on the board and rearrange them until satisfied.

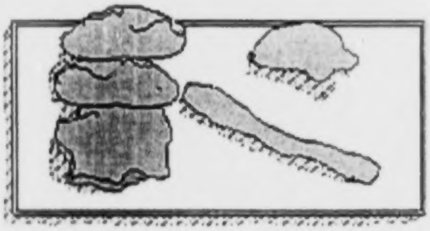


One mother was so excited about the sticky board because she saw her child create art with less assistance. She asked to take one home to use. Other activities might include making a large group mural using the sticky board idea. Children can spend time tearing colorful pieces of construction paper for the collage. Place the sticky paper directly on the wall and place the containers of torn paper nearby. Children can work cooperatively creating a beautiful art work for their classroom.

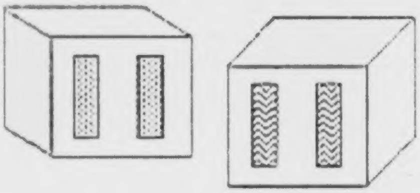
To help in pasting activities, use small wide mouth jars for paste. Glue tends to be easier to work with than paste because of its smooth, flowing properties. Small, 2-oz. bottles of glue are easier for children to hold and squeeze. Buy glue in gallon containers to refill the small containers, one for each child. This method also eliminates excessive glue use by children who are fascinated when watching glue pour and spill onto their paper. Glue can also be placed in shallow paint pans or yogurt lids and applied with brushes, cotton swabs, or other tools. Liquid starch or watered down glue also works as an adhesive and can be placed in a spill proof container. A paint brush can be used to brush it onto the collage surface. Glue sticks and roller glue bottles are alternatives to glue bottles.



Many art activities are very tactile, because they involve touching and feeling a variety of textures. Play dough is soft, pliable, and can be easily manipulated. Clay and plasticene should also be available for children to use. Theraputty comes in five different colors. It is rated from extra, extra soft to firm, depending upon how easy it is to manipulate. Try a variety of materials to see what works best in your classroom.



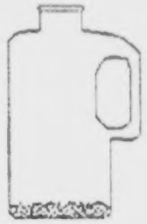
Children use blocks to create a variety of sculptures. Bristle Blocks and magnetic blocks make it easier for children with limited motor skills to build their constructions. As the diagram to the right shows, other blocks can be adapted by adding self-stick Velcro as a gripping device.



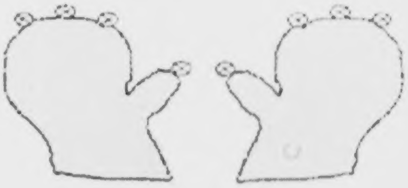
Music and Movement

Musical instruments can be adapted in many ways so anyone can produce music. The simplest way to adapt musical instruments is to make the handles larger with tape, foam, or some other method. Use large wooden knobs on cymbals, wood blocks, the steel striker for a triangle, or mallets for drums and xylophones. The knobs can be purchased from a hardware or discount store. Knobs can be painted or color coded to help children identify pairs or sets of instruments.

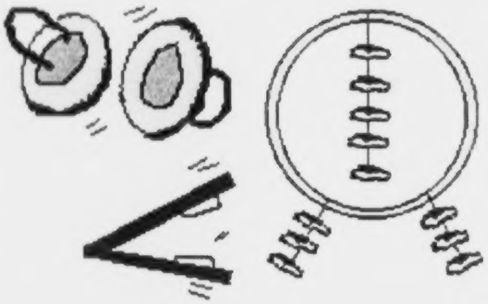
Homemade instruments can be individualized to the children in your classroom. Maracas and shaker toys can be made in several ways. Staple two paper plates, eating surfaces together, to form a pocket. Leave enough space open to put in beans or rice. Staple the opening. Add a large craft stick for those children who need a different type of grip. The stick can also be covered with foam to provide a larger grip. Another alternative maraca is to use the plastic lemon or lime juice containers from the produce section of the grocery store. Empty the containers and fill with beans, rice, nuts, or bolts. Glue a dowel rod into the opening. Again, foam can be placed over the dowel for a better grip. Pictured to the right, is a plastic milk container partially filled with beans, rice, or pasta. Glue the lid on to prevent spills.



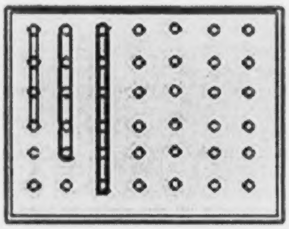
Sew bells onto mittens or attach the bells to elastic. Be sure that the bells are large enough to avoid choking. The elastic instruments can go around the wrists or ankles and the



mittens can be placed on the hands or feet. These instruments are designed for children who do not have much grip strength in their hands. Some children may resist having the mittens placed on their hands, if they do, don't force the children to wear them. Let children grasp the mittens until they are more comfortable with the idea.



Illustrated to the right are some more inexpensive, home made musical instruments. Bottle caps and juice lids can be used to make castanets, finger cymbals and other percussion instruments. Fold a piece of thick cardboard in half and glue a lid at each end of the cardboard, making certain that the lids meet. To play, press the folded ends together. Make a tambourine from an embroidery hoop. Hammer nail holes through bottle caps, string the caps using yarn or fishing line, knotting the string after each cap. Tie or tape the line around the hoop for security. This can also be done using jingle bells.



Make stringed instruments from nail boards, Geo boards, or pegboards. Pictured to the right are different sized rubber bands placed around the nails or pegs and stretched to different lengths. Children can listen to the various sounds made as they strum the rubber bands.

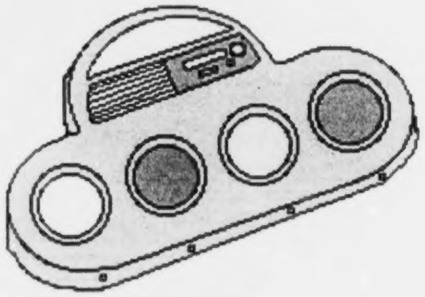
Look around your classroom and home for ideas for other musical instruments that can be made from a variety of found materials: drums from coffee cans, wind chimes from pipes or silverware, and xylophones from graduated pieces of PVC pipe. *The Backyard*, a software program, has windchimes made out of silverware, pipes, shells, and bones. The possibilities are endless; try different ideas and have fun!

Streamers for movement activities can be made from ribbon, dowel rods, cardboard tubes, or rubber hose. Foam can be placed around the dowel to provide a better grip. Scarves can be attached to grippers or loosely tied around children's wrists.

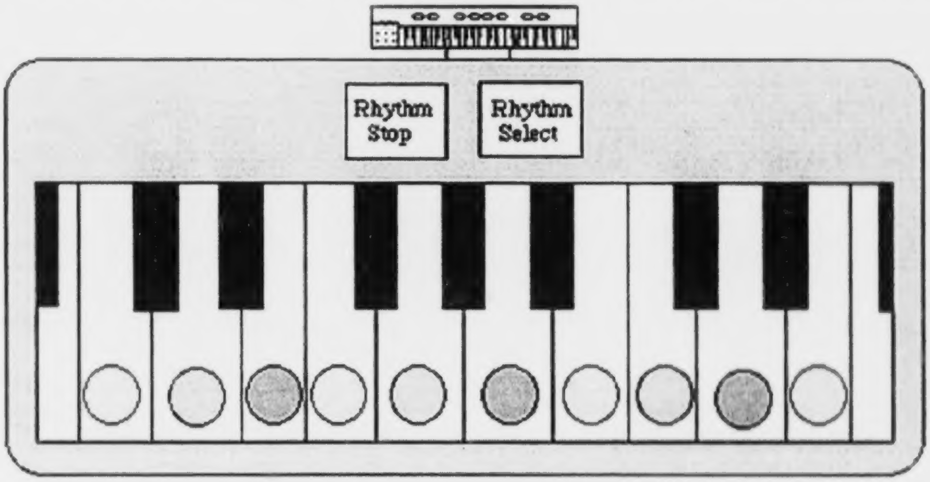
Move to music with a child by creating a ring of stretchy materials that fits around both you and the child. The material provides support as the teacher leads, from either a seated or standing position, in moving to beats and rhythms of the music. Sew a large piece of double-knit material with the cut edges together so that the material remains stretchy. This provides opportunities in movement for children who may not have the ability to sway and move to music on their own.

Many battery-operated toys are musical. Batteries can be used to activate radios, CD players, and cassette players. Many children enjoy the musical curtain, called the Somatosensory Bead Chain (Toys for Special Children). It has many silver-colored, beaded chains. When the chains touch the bar, music plays. It is available with either a children's song or a classical selection. Children quickly learn that they control when the song plays by their movements.

The **TalkPad** (Frame Technologies) is a battery powered communication device that has a total of 60 seconds of speech/record and playback capability. Each button can record and play back up to 15 seconds of speech or music.



The **Music Mat** (FDLRS/TECH) is large, lays on the floor, and is similar to the one used in the movie *BIG*. Made from two flannel-backed 52" x 90" vinyl tablecloths, the Music Mat features 20 notebook switches connected to an adapted keyboard. Electrical tape was used to create piano keys. When a child walks, crawls, pats, rolls on it, or moves a wheelchair over the mat, the music is activated by the hidden switches and musical notes are heard. Children can make music by themselves or with their friends and classmates. Anyone who can activate a switch can create and play music using the Music Mat. See the Appendix for more information about the Music Mat.



Dramatic Play

Props are essential elements to children's dramatic play; they provide concrete objects to what can be an abstract process, but they don't have to be expensive or elaborate. You can quickly learn how to scrimp on some props in order to spend more on those special items geared toward your children's needs.

Puppets are excellent tools to involve children in discovering emotions and feelings. Some children respond better to puppets than to people, and they can be drawn into activities by the puppet. The texture of the puppet can provide sensory stimulation. Ask, *How does the cat feel? How do its whiskers feel?* The puppet can be a prop used with computer activities, such as the xylophone-playing cat in *The Backyard*. As one child activates the cat on the screen, other children can make music with an off-computer xylophone or make the kitten meow. If making your own puppets, remember to avoid using small buttons or other items that could be choking hazards. Cloth puppets and plastic puppets can easily be washed or disinfected if they are mouthed by children. See Chapter 4 for more information about puppets and masks.

Storytelling aprons and flannel boards can be used to bring stories to life. Children can retell the story using characters from the story. "Snapshots" can be taken of characters from children's favorite computer programs, laminated, and affixed with Velcro. The teacher or child can wear the apron and boards can be custom made to fit wheelchair trays.

Other inexpensive props include a large blanket or sheet which can become a tent, a cocoon, or a pond. Stove or refrigerator boxes can be painted to become nearly anything! Some classrooms have created school buses, spaceships, and homes out of boxes. Make sure these spaces are created large enough so a child can maneuver a wheelchair or walker through them.

Scarves or streamers can be used to add to the movement of a butterfly or another creature. The scarf can be tied around the child's wrist or wheelchair or walker (be certain to make it short enough so it does not get caught).

The possibilities are limitless; just use your imagination to think up all kinds of interesting props. Families usually have some treasures at home waiting to be shared with you; just ask! Netting, cardboard tubes, fabric, and of course, clothes are just a few things which can be used to swing your classroom into "dramatic" action.

Technology

When adaptive technology is integrated into early childhood programs, children with disabilities gain a sense of control over their environment. Young children can be active participants in the expressive arts through the use of technology, including battery-operated toys and computer activities using interactive software and appropriate peripherals. Information in this section is adapted from various Macomb Projects technology resources.

Switches

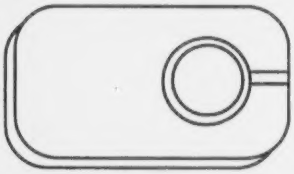
Children physically unable to explore a play environment can be given a switch that activates a battery-operated toy. Battery-operated toys represent concrete objects which may offer visual, auditory, and tactile stimulation. Toys should be matched to the developmental level of the child. Toys that appeal to the child through visual, auditory, and tactile stimulation should be used. Set aside time for sensory exploration of the toy before switch activation.

> *Objects that produce light or vibrating stimuli may appeal to some children. Children who enjoy auditory stimuli may be particularly interested in pressing a switch to activate taped music or other sounds. Dave, a young child with multiple disabilities, successfully activated Ring Around Bells (Enabling Devices). When the musical toy was attached to the Ultimate Switch (Toys for Special Children), Dave reached for and pushed the switch each time the music stopped, so he could make more music. He smiled and laughed as the music played and the bells spun around and around.*

Almost any battery-operated toy can be adapted with a commercial switch or homemade switch. Switch-activated musical toys are available commercially or they can be made from a kit. Materials needed for creating switch accessible toys include a variety of battery-operated toys, battery interrupters, and appropriate switches that make use of the individual child's most reliable movements. For more information about constructing adaptive switches, read *A Switch To Turn Kids On* (Macomb Projects, 1993).

Many children access the computer while positioned in their wheelchairs. Finding the most appropriate placement of the switch may be difficult when working with children with severe and multiple disabilities. Remember, the child may focus attention on the switch on the tray instead of what is on the monitor. Even though a switch can be secured to a wheelchair in a variety of different ways to allow switch access for various body movements like head, legs, or foot; a majority of children use their arms, hands, or fingers for switch access. Switch mounts are available commercially for positioning and can be attached easily to the child's wheelchair. Various materials are also available for securing a switch flat on a table or wheelchair tray. Dycem, suction cups, duct tape, or even masking tape can serve the purpose in securing a switch temporarily on a surface for the child. However, children who exert a lot of pressure may still move a switch slightly out of place with these materials. A more secure placement is then needed to hold the switch in a stable and reliable position.

Create a Customized Switch Holder. This adaptation is used with permission from *Building InterACTTive Futures* (Hutinger, Johanson, Robinson, & Schneider, 1997). A customized switch holder can provide a suitable placement for children with severe physical disabilities, as well as those with mild developmental delays. Made out of inexpensive scrap plywood, the holder can be designed to fit a switch of any shape or size. Made out of durable material, this customized switch holder not only secures the switch in place, but can also serve as an armrest for the child who has difficulty lifting his hand onto and off of the switch. It provides an elevated surface so only slight movement is needed to activate the switch.



The customized holder provides space underneath for hiding cords and provides a stable position for the switch, eliminating the distraction of playing with the tape, picking up the switch or sliding it across the table. The secure switch placement allows the child to concentrate on the activity and the support staff to concentrate on the child's reactions to the toy or software.

Materials

Scrap 3/4" plywood (preferably AC grade)
Circular saw
Saber saw
Router with rabbeting and rounding bit
Sand paper
Varnish and/or paint
Large round switch, such as Big Red Switch (AbleNet)
Portable clamps (optional)

Procedures

- Cut the 3/4" plywood to fit securely on top of the child's wheelchair tray.
- After determining the correct placement of the switch, trace the switch onto the plywood, leaving a 3/8" lip on the inside.
- Cut the traced circle with the saber saw . Using the router with the rabbet bit, make a ledge to hold the switch so that it will be recessed. Rout around the switch's shape. Remove the unnecessary wood with the router.
- Place the switch into the hole. Check for adjustments. Remove the switch and make final adjustments.
- Rout an additional straight line underneath the plywood so the switch's cord can pass through.

  For a smooth outer edge, use the router and rounding bit around the outside edge of the holder.
- Sand the holder till smooth. Paint or varnish the holder.

Insert the switch into the holder and place it on the child's wheelchair tray. Use a portable clamp to secure the switch holder if necessary. Plug the switch into a switch interface. The switch is now ready to use. Any type of switch may be used; just adapt the wood to fit the switch. When painting or varnishing the holder, be creative and decorate it with the child's name, graphics, or favorite stickers or pictures.

Computer Peripherals

A computer enables children with severe and multiple disabilities to engage in the expressive arts. Some things to consider are setting up the computer center so that it is child accessible, positioning the child to use his or her most reliable movement, positioning the monitor at the child's eye level, and choosing appropriate peripherals and interactive software. Some of these things are discussed in Chapters 3 and 4. With the appropriate peripherals, a computer can be integrated into the classroom successfully. Peripherals that have been successfully used in the field test classrooms to create this curriculum include switches, a TouchWindow, kidDraw, and Key Largo with Ke:nx.

These devices let children with limited motor movements make marks and draw with graphics programs such as *Kid Pix*.

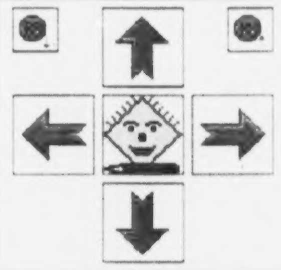
Some children can barely make marks using traditional or adapted drawing and painting tools, but they experience success drawing at the computer! When a TouchWindow is attached to the computer, they can make marks with their fingers, fist, or side of a hand. If a child has difficulties raising her arm to the monitor, place the TouchWindow on the wheelchair tray in a slanted position so she can see both the monitor and the TouchWindow.

Create Art Using Ke:nx with a Switch or Key Largo. Most graphics programs like *Kid Pix*, have many small boxes on the screen which represent the drawing tools and colors. Fine motor skills and concentration are required for children to move the mouse or to aim their finger on the *TouchWindow* at the desired box to select one of the options. So how can children with physical disabilities successfully use this program?

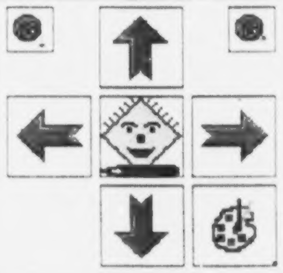
An adaptation to *Kid Pix* which ensures that all children, even those with physical disabilities, have an opportunity to enjoy drawing has been created. By using Ke:nx, an adaptive interface for the Macintosh, the program can be customized for switch and touch tablet (Key Largo) use. Simple setups were created for preschool children, since the ready-made setups for *Kid Pix*, available on the Ke:nx software and as *Easy Overlays* from Don Johnston, are designed for older children.

Simple Drawing was designed to provide enjoyable art experiences for all preschool children. It is a part of the art curriculum activities being developed by the Expressive Arts Project and Project ACTT. Chapter 12 lists the address for *Simple Drawing*. Four Ke:nx setups designed to be used with *Kid Pix* are included in *Simple Drawing*. If young children need to use a switch or touch tablet and are beyond simple switch activation, these setups provide a means for them to create images.

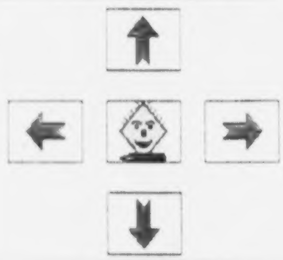
Switch Setups. Two switch setups were designed for young children who have the ability to use a simple scan or who are developing scanning skills.



The first setup provides the child with seven choices; button down, up, button up, left, click, right, and down. The child is encouraged to activate the switch to start the scan, then activate his switch to make a selection. The scanning begins at the top, moves to the left, and continues in a top-to-bottom, left-to-right progression. If the child activates the up arrow, the cursor will move up until the child hits the switch to stop the movement. The *Kid Pix* icon is the mouse click, which will release the cursor. When the child activates the button down, the cursor will draw with the default color (black). The child then selects an icon to move the cursor on his drawing. The illustration to the right depicts the scanning options presented in this first setup.

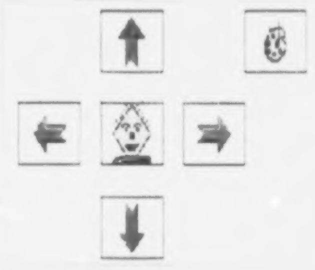


In the second setup, the child is presented with an eighth choice, the color palette, to change the color of the cursor. When the palette is selected, it will branch to a new array. The child can then select the colors red, blue, or yellow. The seven other choices are the same as the first setup. The illustration to the right depicts the scanning options presented in this second switch setup.



Touch Tablet Input. *Simple Drawing* offers two setups for overlays which simplify the options in *Kid Pix* for children who can use a touch tablet, such as the Key Largo. The first touch tablet overlay provides the child with five choices; up, down, right, left, and click.

The setup simplifies the drawing program by reducing the number of choices for a child to activate in order to make a mark on the screen. Each icon replaces the mouse movement or click. When the up arrow icon is selected, the cursor will move up with the default color. It will keep moving up until the child activates the up arrow again or selects another icon. To stop the movement of the cursor at any time, the child can activate any icon on the overlay. Selecting the "click" icon will release the cursor so the facilitator can select other options for the child, such as color, if needed. The bottom image on the preceeding page depicts the overlay which can be printed and placed on the touch tablet for use with this setup.



The second touch tablet setup provides the child with six choices; up, down, right, left, click, and a palette. When the palette icon is selected, the cursor moves to the color palette of *Kid Pix* and scans the colors, red, blue, and yellow on the screen. The child selects the color by stopping the cursor with a press on the palette icon. The child can then continue drawing as in the first setup. The illustration to the right depicts this setup.

Software

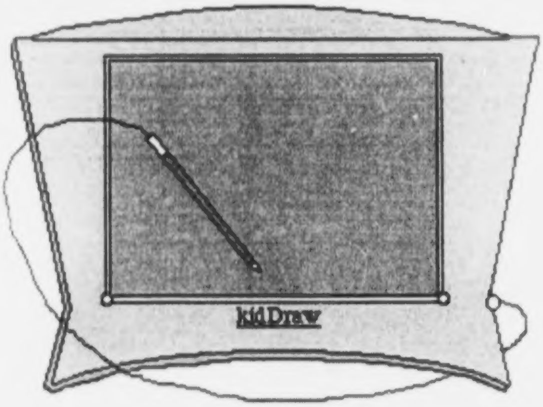
ArtSpace is computer software specifically designed for children with disabilities. Children can "visit" an art museum complete with an adult gallery, a children's gallery, and a studio. While in the galleries, children can see videos of artists discussing their work or explaining a process, listen to people's comments about each image, see close-up views of each work of art, and listen to music that reflects the mood of the piece. Children can activate a simulated drawing program to recreate their favorite drawings in "The Studio." This software can be accessed with a mouse, a switch, or a TouchWindow.

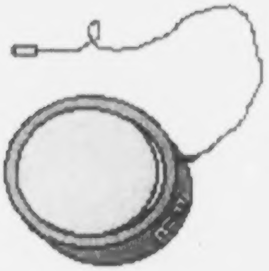
Some of the interactive software used for music, movement, and dramatic play experiences include *Thinkin' Things Collection 1*, with "The Fripple Shop," "Tooney Loon," "Flying Spheres," and "Oranga Banga;" *Kap'n Karaoke*, with a wide range of songs for a sing-along; *The Backyard*, with a fence that can be painted to make different sounds as played by the bird and the cat; and *HyperKeys*. *A Silly Noisy House*, *Busytown*, and *Harry and the Haunted House* all have sections with music. Designing off-computer activities helps to reinforce concepts for each computer software program. For example, some activities based on "The Fripple Shop" include making soft sculpture Fripples, creating a Fripple Shop play environment, and dancing to made-up Fripple songs.

With the appropriate adaptations and software, young children with disabilities can participate in their own learning rather than be passive receivers. The following are examples and descriptions of several successful switch toys and adaptive peripherals for the computer used in the field test site classrooms. More complete information about software, switches, computer equipment, peripherals, and adaptations for children with severe and multiple disabilities is available from Project TTAP (Technology Team Assessment Process) at Macomb Projects.

Peripherals

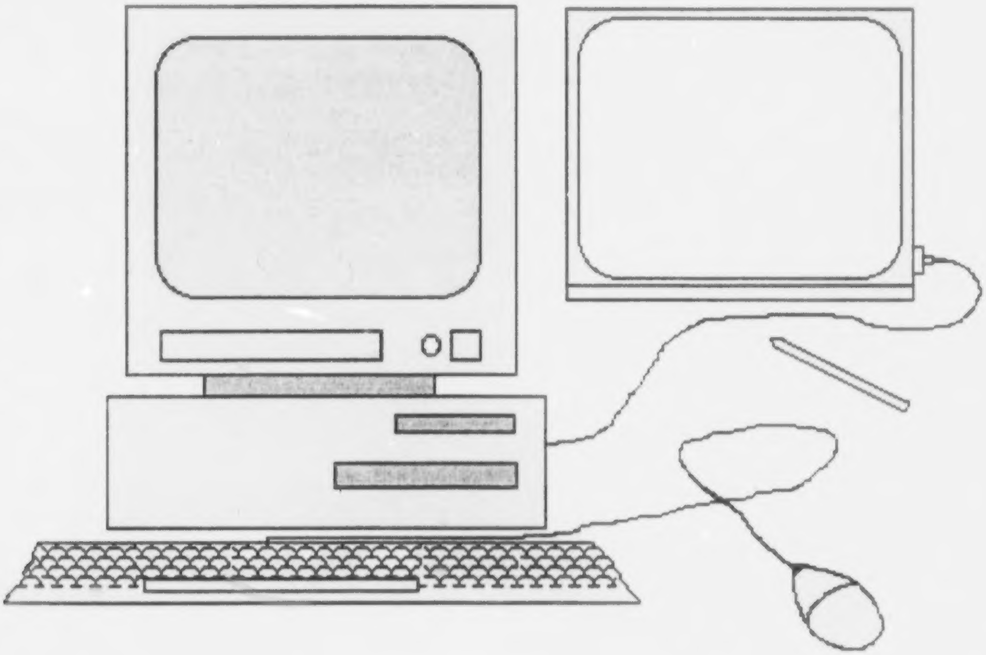
kidDraw by kidBoard is a child size pen and slate board. It is available for both the Macintosh and PC. Drawing pads are electronic pen and slate drawing tools. Whenever you move the pen or stylus on the surface of the art pad the cursor follows on the screen. The draw tool has the natural feel of drawing with a crayon or marker.



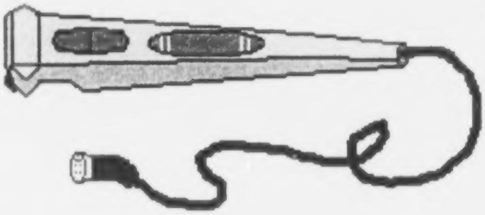


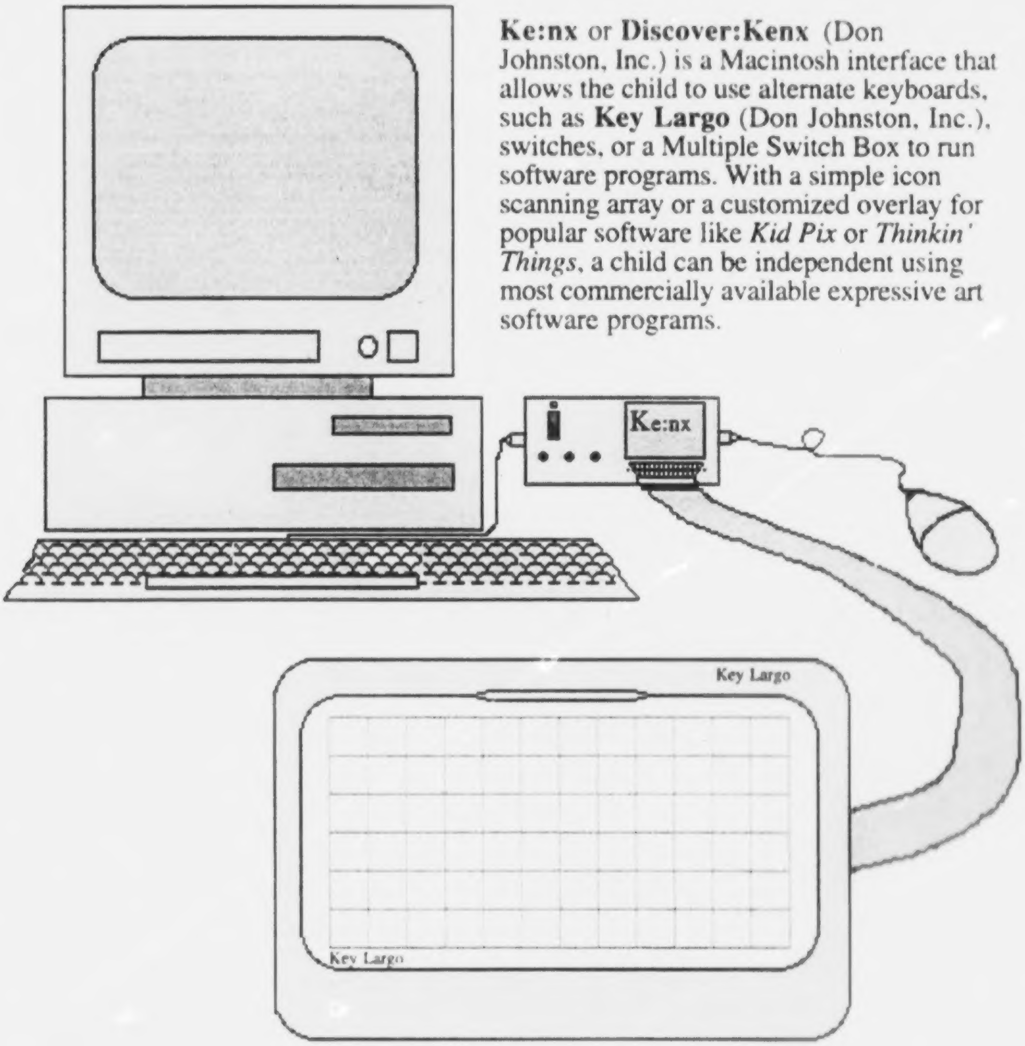
Discover:Switch (Don Johnston, Inc.) combines Ke:nx technology with the AbleNet switch. Anything you can do with a standard keyboard and mouse, you can do with Discover:Switch. Use with many children's expressive arts software programs, such as *Kid Pix, Thinkin' Things, Blocks in Motion,* and *Just Grandma and Me.*

The **TouchWindow** (EDMARK Corporation) provides one of the most natural and direct ways to interact with computer software. It is placed over the monitor where children most naturally would reach to touch what they see. Children can position the cursor, draw, make selections, move objects, and make choices with the touch of their fingertip or the stylus. TouchWindows are available for the Macintosh, Apple II Series, and IBM & compatible computers and work with all Macintosh software and an increasing number of IBM mouse-activated programs.

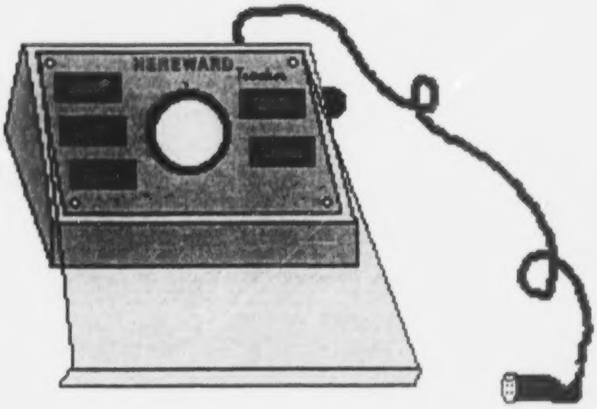


The **Computer Crayon** (Appoint) is a mouse tool that is shaped like a crayon. It works on nearly any surface and does not require a mouse pad. It does not have the pressure sensitivity of an electronic slate and pen tool. This computer crayon is available through Questec and can be ordered for both the Macintosh and IBM.





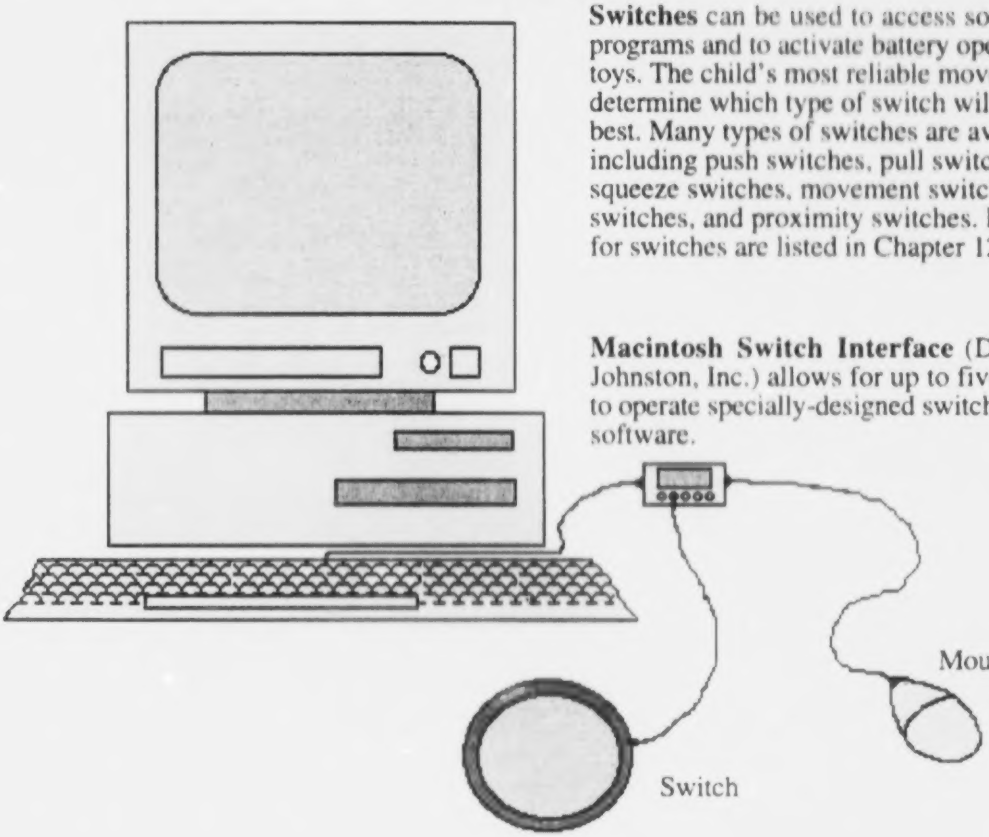
Ke:nx or **Discover:Kenx** (Don Johnston, Inc.) is a Macintosh interface that allows the child to use alternate keyboards, such as **Key Largo** (Don Johnston, Inc.), switches, or a Multiple Switch Box to run software programs. With a simple icon scanning array or a customized overlay for popular software like *Kid Pix* or *Thinkin' Things*, a child can be independent using most commercially available expressive art software programs.

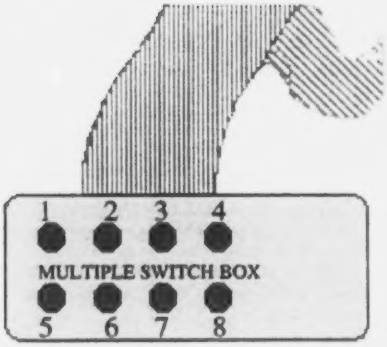


The **Trackerball** (Penny & Giles) allows young children with physical and sensory limitations to find success activating a software program. The rolling ball is large size and easy to use. Children can have normal clicking action, and use the click-lock or button down features. The controls let the child move the mouse in all directions or change settings for vertical or horizontal movements only. This device does require familiarity with mouse movements for successful operation.

Switches can be used to access software programs and to activate battery operated toys. The child's most reliable movement will determine which type of switch will work best. Many types of switches are available, including push switches, pull switches, squeeze switches, movement switches, puff switches, and proximity switches. Resources for switches are listed in Chapter 12.

Macintosh Switch Interface (Don Johnston, Inc.) allows for up to five switches to operate specially-designed switch-activated software.





A **Multiple Switch Box** (Don Johnston, Inc.) can connect up to eight switches to Discover:Kenx. Define each switch as a character, sound, or special action. Great for group participation in stories and dramatic play where each child can independently activate the computer with a switch.

For futher information on computer peripherals, refer to *MACcessories: A guide to peripheral devices for the Macintosh* (Hutinger, et.al., 1997).

Sample Activity

Drawing with kidDraw

Drawing with kidDraw is much like drawing on a Magna Doodle. The image appears on the monitor of the computer. This adaptive peripheral, along with graphic software and adaptive grip devices make it possible for children with moderate to severe and multiple disabilities to participate in art activities. The stylus can be attached to the right or left side of the draw tablet. The drawing surface is so touch sensitive that even a very light touch creates a line on the monitor.

Teacher's Role

Before inviting the children to draw, plug in kidDraw to the computer. Make sure the monitor is placed at the child's eye level and the keyboard is moved aside to prevent distractions for the child. Attach the printer to the computer and turn on both machines. Boot a graphics program, such as *Kid Pix 2*, and have the screen ready for the child to use. If necessary, model for the child how to make marks by moving the stylus on the touch pad. Encourage the child to do the same.

Outcomes

Children will experience drawing with a new material. They will track and manipulate concrete objects and acquire an interest in mark-making and drawing.

Children will observe peers and adults exploring drawing on the computer. They will increase their fluency and flexibility with a visual art tool and develop fine motor skills.

Children will extend peer and adult interaction. They will explore and discover new drawing techniques using the computer. They will increase mark-making, symbol drawing, and emergent writing.

Children will use skills with computer drawing tools to represent learning in many ways. They will apply skills with computer drawing tools when participating in *HyperStudio* or *The Amazing Writing Machine* activities..

Materials needed

- Computer: Macintosh or PC compatible
- kidDraw
- Draw Programs:
  - *Kid Pix* (series)
  - *EA*Kids Art Center*
- High Density computer disk
- Color Printer

Procedure

Make drawing programs available and accessible to children often so they become familiar with and explore the medium. Encourage the child to explore the color and tool options available on the program and kidDraw. Follow the child's lead and verbally describe the child's actions and resulting marks. Invite children to talk about their pictures if they feel comfortable doing so. Talk about the width of the lines, curves, and color. When the child indicates the drawing is complete, save the image onto a disk. Print the images and display them in the classroom.

Adaptations

kidDraw comes with a non-skid bottom surface. It can be placed on the table in front of the computer, on the child's lap, or on the child's wheelchair tray. The monitor can also be placed on the floor, or any other position, so that it is at the child's eye level. An adaptive grip device can be attached to the stylus or the child's hand to facilitate holding the drawing tool.

An overlay can be created that simulates the monitor. This can be placed under the clear vinyl drawing surface of the kidDraw touch tablet. Use sign language while modeling and demonstrating the process when working with a child with a hearing impairment.

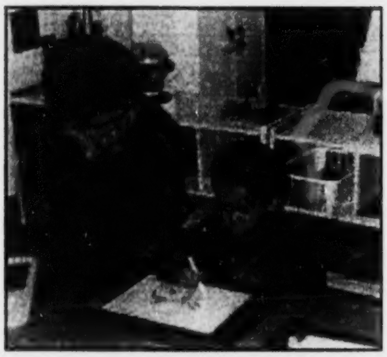
Apply a tactile material or puffy paint to a clear transparency and place it on the touch surface when working with a child who is blind or visually impaired. The child is creating a picture by touch and sound. Verbally describe the process as the child touches and hears the sounds when marks are being made. Some draw programs, like the *Kid Pix* series, have wonderful sound effects.

Related Activities

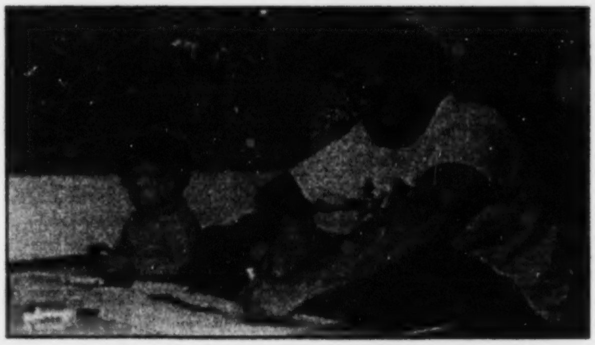
- Connect computer drawing experiences to a field trip, child interest, or a project.
- Illustrate a favorite book or create your own books for the reading center.
- Use a 4 color heat-transfer ribbon or iron-on transfer paper. Create a heat-transfer image and use for a child's t-shirt.
- Draw with crayons, markers, chalk, or paint.
- Draw to music.

Chapter Ten
When Families Participate

When Families Participate



Families can be involved in expressive arts activities in the classroom through giving and receiving information, participating in, and evaluating activities. Providing information to families about the expressive arts, inviting families to assist with activities in the classroom, encouraging families to bring materials to the classroom, and giving families opportunities to initiate their own ideas for expressive arts activities are all ways to facilitate family participation. As families participate in the expressive arts, knowledge about the arts will be gained. Family members will see the positive outcomes their child is gaining through participating in expressive arts activities. Once families become informed, they can be advocates for an expressive arts curriculum.



Teachers can use several techniques in the classroom to demonstrate to families the importance and value of the expressive arts. These strategies help to form a bridge between school and home using the child's own work. Displaying children's art work in the classroom shows families that the teacher appreciates and enjoys children's art work. Producing videos of children involved in the arts shows families how much children enjoy expressive arts. Sending children's art work home gives families the opportunity to share their child's work. Providing art materials and encouraging opportunities to make art at home reinforces how important art is. Using forms to report the child's communication and the work the child does at home provides feedback to the teacher and is another way to involve families. These strategies are simply suggestions for teachers to use. Start with the strategies that are most comfortable and add to them when possible.

Many other ways are available for to involve families in the classroom. Finding an interesting place to visit in the area and inviting families to join the class is one good example. If the visit is planned far enough ahead of time, invite families to accompany their child Trips can be taken on a bus, a train, or by walking. Upon returning, children and adults can create a drawing together, titled *What I liked about our trip to....* Children can dictate a response to this question. Making a book of these drawings and responses by children and adults creates a way for everyone to remember the trip. Include photographs from the trip.

Ways to Involve Families with Classroom Activities

After a trip to the zoo with parents and children, ask children what they enjoyed most about the trip. The following are comments that were made and put into a book with drawings by the children titled *What I liked best about the trip.*

> *I liked the overall trip. Probably the most is spending the whole day with my son.*
> *I liked the Magic House. I liked the birds. I liked the sand, the computer at the zoo. That's all.*
> *I liked the whole experience. I really liked the electricity thing (at the Magic House).*
> *Liked the balls (at the Magic House), the slide. Liked the monkey and Timon (meerkat).*

I liked everything. I thought it was a great trip.
I liked the animals. I liked the giraffes.
Liked the slide at the Magic House.
I liked the petting zoo and the penguins and the giraffes.
I liked the flash thing at the Magic House that took your shadow picture.

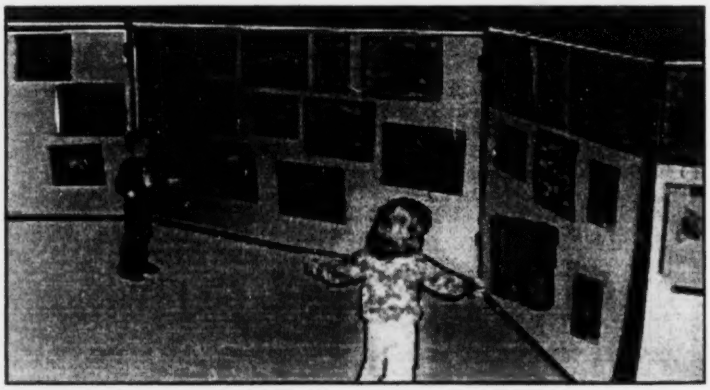
A bird is going into his house.

If a video camera is available, videotape class trips, special events, or everyday classroom activities. Share the videos with families by routing them to each family for one or two nights. A video night might also be set up for children and families to view special videos. The children could create treats for the event.

Create a group picture about Spring. Using *Kid Pix*, make a computer drawing. Print a drawing for each child. Have adults assist the children in addressing and stamping envelopes. After placing the art work in envelopes, children and adults can walk to the local post office and mail their pictures to their families.

The whole school can participate in an art exhibit. Transform each classroom and the hallways into an art gallery. Invite families to the grand opening and invite them to participate in making art in each classroom with their children.

When a teacher wanted children to experience an elementary school art exhibit on display at the library, she enlisted the help of a parent who drove a local city bus. Children took a field trip to see older children's art work on display.



Plan Family Nights as a way to involve families in classroom activities. One session could have families explore some of the children's favorite software. Often children will come home and talk about a piece of software they are interested in at school. Families may not have any idea what their child is talking about because they have never seen the software. If possible, arrange to use the school's computer lab or gather together several computers from other classrooms. Before families arrive, install software that is used in the classroom and have any CD-ROMs available. Children can show their families how to use the software or child care can be provided so the adults can explore the software without the child's influence.

Many families are willing make contributions of time, expertise, or assistance to the classroom. Sometimes, however, it takes a little creativity. Find out if any family members have any interesting hobbies or knowledge they want to share. For example, a family member who is an artist could show how they create their work during a classroom visit. Maybe a family keeps horses that they would be willing to bring to school for the children to see, touch, and draw or paint. Another family might have someone who likes to cook. Invite that person to school to conduct cooking activities with the children. Children can participate in creative cake decorating or some other cooking activity. Family members might express interest in creating and decorating one of the classroom bulletin boards with the children. These are some of the interesting ways to involve families who might not be able to attend parent-teacher conferences or family nights

ArtExpress Family Involvement Resources

ArtExpress Family Questionnaire

A family questionnaire can provide feedback from families about activities the child does at home as well as give the teacher information about how the child communicates with family members. Questions are designed to learn specific information about the child and the child's family life. The question, *Does your child have a special place to keep toys at home*? is important because the value the family places on the child's possessions is learned. Staff might not have the opportunity to discover a child's feelings about other children in the classroom, but the questions about peers can provide some insight. It is also a good way to discover the family's perceptions of the child and what the child communicates. By answering the questions on the survey, the family is showing how well they know the child. Family members see the child in a different atmosphere where the child might communicate about classmates more openly than at school. Perhaps a child has talked about certain children at home, while at school the child does not appear to have an interest in other children. The family can provide staff with important information through the questionnaire.

ArtExpress Family Satisfaction Questionnaire

The Family Satisfaction Questionnaire provides an opportunity for families to provide teachers with information about their interests, knowledge, and preferences about activities and projects in the classroom. Families have the opportunity to indicate activities they would like to see more often in the classroom and to identify their child's favorite activities school activities.

ArtExpress Family News

Communicating with families is important. Not only is it important for families to share information about their child, but also for the teacher to share with the families as well. By using these newsletters, the teacher can inform families of the different activities in which the classroom is involved. Newsletters also give families ideas to use at home with their children. The newsletter titled, *Making Adaptations for Your Child*, was designed to use along with the other newsletters as a way to show the families of children with special needs how adaptations can be used at home to make the expressive arts accessible.

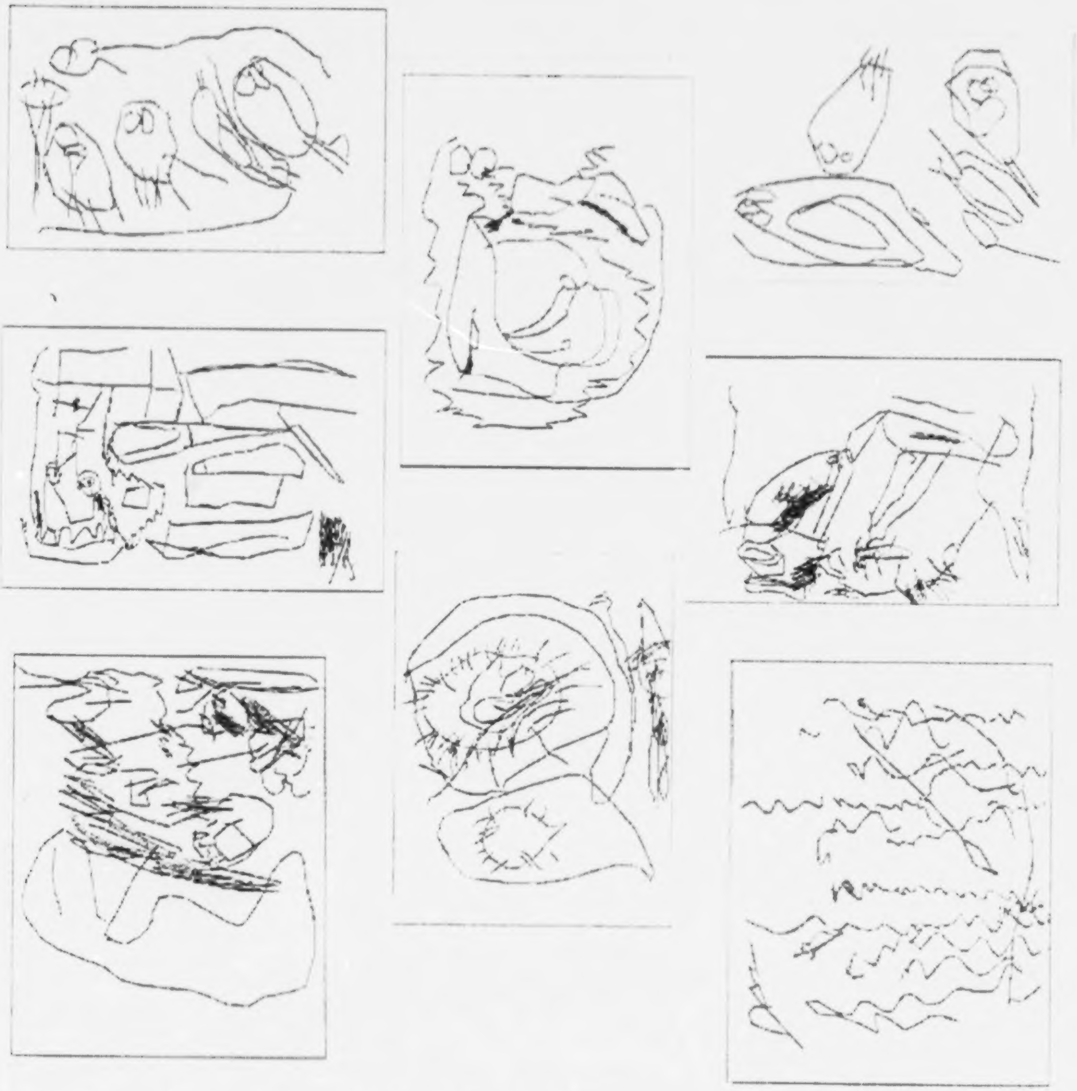
The Refrigerator's Full, Now What??!

All families have seen their child's art work come home from school. Some even put the art work up on the refrigerator (the place of honor), but after that refrigerator is full, what happens to the art work? This handout provides two ideas for families to display their child's art work and still save space on the refrigerator for the most recent works of art.

The ARTtaché

The ARTtaché can be created by filling a bag with art supplies and sending it home with a child. This provides families opportunities to use art with their child. Hopefully, all of the children have some of these materials, but by providing items such as assorted scissors, different markers, clay or play dough, the teacher can give the child and family expanded opportunities. Also, by sending materials home and requesting that they be returned, the child is learning to take responsibility for someone else's belongings. Sending home art materials shows the child and family that the teacher values art and feels that art is important.

Many different ways to adapt the "take home bag" idea for different areas of the curriculum are available. Contents of the bag may be grouped around a certain theme. The contents can include books, a game, and puzzles. This has been a successful way to get parents involved in their child's learning. By providing a response notebook, parents and family members can write to the teacher and tell what they liked about the bag and what they did with their children. This idea can be carried over into summer. Fill the bag with markers, paper, play dough and a book for the children to take home over the summer.



These are some drawings from the sketchbook Billy worked on during the summer. Billy wanted to share them with you. Thank you for providing the paper, markers, and other materials.—Billy's Mom.

Sample Form

ArtExpress Family Questionnaire

Child's Name ______________________________ Child's Birth Date ______________
Name of School ____________________________ Date ______________________

Please complete this survey by circling the yes-no items and answering the other questions.

1. Does your child talk about or express interest in school? yes no

   Please check all activities your child responds to or talks about.

   ____ computer
   ____ art
   ____ music
   ____ snack
   ____ gym
   ____ books
   ____ dramatic play

2. What is your child's favorite activity at home? ____
____

3. Does your child do art work at home? (crayons, play dough, scissors, or glue) yes no

4. Does your child have a special place to keep toys and art materials at home? yes no

5. What activities have you done with your child at home? Please check all that apply.
   ____ Drawing, painting, play dough, or construction with glue or tape
   ____ Reading favorite books
   ____ Listening to music, singing favorite songs
   ____ Moving or dancing to music
   ____ Playing with children's programs on a computer
   ____ Pretending with dress-up clothes, stuffed animals, toys, puppets, or masks
   ____ Cooking, setting the table, washing or drying dishes
   ____ Playing tag, hide-and-seek, peek-a-boo, or ball games
   ____ Playing with puzzles, cards, Candy Land, Mr. Potato Head, Memory, or Lotto

6. Are there activities you would like to see done more often at your child's school? yes no

   If so, what are they? ____
____

7. Does your child respond to, express interest in, or talk about art projects made at school? yes no

8. Does your child have art projects that are special to him or her? yes no

9. Does your child express interest or respond to special friends at school? yes no

10. What do your child and your child's friend like to do together? ______________________________
____

11. Are you interested in participating in expressive arts activities with your child at school? yes no

Sample Form

ArtExpress Family Satisfaction Questionnaire

Date ______________

Name of child ____

Agency/School your child attends ____

1. Please check if you feel your child has been provided with the following opportunities:

_____a. drawing activities—crayons, markers, chalks

_____b. painting activities—easel, finger, watercolors.

_____c. play dough, collage, and sculpting activities

_____d. dramatic play activities—block building, pretending, and cooking.

_____e. music activities—singing with teacher, singing with tapes, and instruments

_____f. computer activities

2. Please rate the quality of each activity.	Excellent		Average		Poor
a. drawing activities	5	4	3	2	1
b. painting activities	5	4	3	2	1
c. play dough, sculpting, and collage activities	5	4	3	2	1
d. dramatic play activities	5	4	3	2	1
e. music activities	5	4	3	2	1
f. computer activities	5	4	3	2	1

3. Are there any activities you would like to see done more often in your child's classroom?

Yes No

If yes, what are they? ____

____

4. What are your child's favorite activities at school?

____

____

ArtExpress Family News

Making Adaptations for Your Child

Many children have limited success when it comes to art, music, and dramatic play. The reasons can range from the age of the child to the limited strength of the child. With a few adaptations, your child can experience success. The following sections list several adaptations that you can make for your child.

Visual Art Adaptations — Drawing, Painting, Sculpture, and Collage

Children who have trouble gripping art tools may just need a different grip. Wrapping tape around the tool gives the tool more width for the child to hold. Dense foam tubing can be cut to fit around the device. You might also cut a slit in a small rubber ball and insert the tool. The child can then hold the ball to use the tool. If your child has a weak hand grip, attach a loop or strap device to the tool and to your child's hand.

If your child doesn't make consistent movements or tends to make faint marks, try attaching fishing weights or drapery weights to the end of the utensil. Paint brushes, chalks, and crayons with rounded ends are available if your child is most comfortable with a fist grip.

Dabber paints and roller bottle paints also are ways to bring the painting experience to children. Children in wheelchairs can use paint roller extensions to paint on the floor. Finger painting can be done with toes or fingers. To help children with visual impairments, use a color of paper that contrasts strongly with the color of the finger paint.

Taping paper to the table or floor can reduce frustration for children. Using removable tape will make it easier to take the tape off of the finished art work without tearing. Taping the bottom of the paper on an easel can also help children who use strong upward motions.

The best position for doing art for some childen may be on the floor. Place a pillow or two under the child's chest. The child will be able to use shoulder and arm movements to paint or draw.

Children in wheelchairs can work comfortably at tables if the wheelchair arms fit easily under the table. A wheelchair tray can also be used.

A Magna Doodle® or Super Color Writer can easily be adapted for children with physical disabilities. Wrap the magnetic drawing pen in any of the ways mentioned earlier to make an appropriate grip for your child. The drawing discs and Spiral Art accessory set can be inserted and glued to film canisters. You can make your own magnetic drawing tools in different sizes and shapes from magnetic strips and film canisters. Some children need magnets glued to all surfaces of the canister to make marks because they use the sides of the canister as the drawing tool. Children are able to make marks using very little pressure with these devices.

Many different types of scissors are available. Some scissors cut only paper, not hair or clothing. Some scissors have extra openings for a helping hand. Other scissors will cut a variety of different designs.

Gluing is an activity that can be difficult for some children. Creating a sticky board is a fun way for children to create a collage without the frustration of gluing. A sticky board is a piece of cardboard with clear adhesive paper (Con-Tact®) placed sticky side up.

Children can place objects on the board and rearrange them until they are satisfied with their creation. A large mural can be made by using the sticky board on a large, flat surface.

Children who like to use glue can use 2-ounce bottles because they are easier for children to squeeze. Glue can also be placed in paint trays or yogurt lids and applied with brushes or cotton swabs. Glue sticks and roller glue bottles might also work well.

Play dough is good for children to create with and to observe changes. It is also a way to strengthen the muscles in hands. Play dough can either be bought or homemade. Here's one of many recipes: Uncooked play dough: Mix 1-1/2 cups flour, 1/2 cup salt, 1/4 cup vegetable oil, and about 1/4 cup water (with a little food coloring added). Store the dough in an airtight container and keep it in the refrigerator.

Block play is another form of sculpture. Bristle Blocks and magnetic blocks make it easier for some children to build their constructions. Other blocks can be adapted by adding self-stick Velcro® or by using Velcro® to grip the blocks.

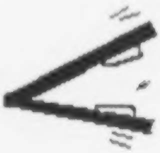
Music and Movement Adaptations

The simplest way to adapt musical instruments is to make the handles large with tape, foam, or some other method such as a rubber ball. Use large knobs purchased from hardware or discount stores on the steel striker for a triangle, mallets for drums, and handles for xylophones, cymbals, or wood blocks.

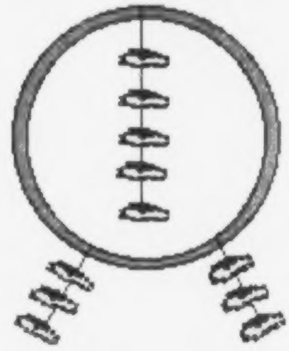
Homemade instruments can be individualized for your child. Maracas and shaker toys can be made in several ways. A plastic milk container can be partially filled with beans, rice, or pasta. Small plastic water and soda bottles also work well. Glue the lid on to prevent spills. Staple or tape two paper plates, eating surfaces together, to form a pocket. Leave enough space open to put in beans or rice. Staple or tape the opening.

Bells can be sewn onto mittens or attached to elastic. Avoid using small bells which could choke a young child. The elastic instruments can go around the wrists or ankles and the mittens can be placed on the hands or feet. These instruments are designed for children who do not have much strength in their hands.

Juice lids can be used to make castanets, finger cymbals, and other percussion instruments. Fold a piece of thick cardboard in half and glue a lid at each end of the cardboard, making certain that the lids meet. To play, press the folded ends together. A tambourine can be made from an embroidery hoop and bottle caps or jingle bells.



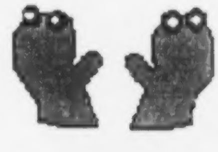
Other musical instruments can be made from a variety of found materials: drums from coffee cans, wind chimes from pipe or silverware, and xylophones from pipe. The possibilities are endless.



Streamers for movement activities can be made from ribbon. Scarves can be loosely tied around the child's wrist.

Dramatic Play Adaptations

Puppets are excellent tools to use to involve children in discovering emotions and feelings. Some children respond better to puppets than to people and they can be drawn into activities by the puppet. If making your own puppets, remember to avoid using small buttons or other items that could be choking hazards. Puppets can be made using an assortment of different materials. Socks, mittens, and even small paper lunch bags can be decorated and turned into puppets. Cloth puppets and plastic puppets can easily be washed.

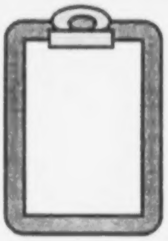


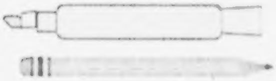
ArtExpress Family News

Drawing Can Be Done Almost Anywhere, and It's Fun!

A Special Place to Draw

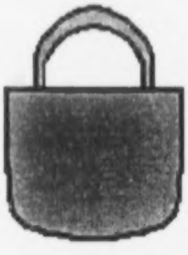
With your child, search for a private area where your child can set up a work space. If a private space is not available, help your child find something that can be used to draw on anywhere. A clip board works well. Help your child collect supplies and organize them in containers. Make a list of "things to save" and start a collection of recycled paper products to draw on, paper tubes, Styrofoam® trays, corrugated cardboard, paper bags, and old greeting cards. Be sure these items are stored near your child's special work space and that your child can reach them easily.





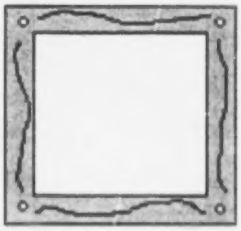
Drawing On The Go

It might be fun to put together a travel bag of drawing materials. Together, look around for a special backpack or canvas bag. Put some drawing tools and materials inside and hang it near your child's coat. When you go out, encourage your child to bring the travel bag along. Your child can use these drawing materials while in the car, while waiting in a restaurant, while at the grocery store, or in the doctor's waiting room.



A Special Display Place

Make sure you have a special place where you and your child can proudly display the drawings. One parent said that her son put his drawings on the wall at the end of his bed. She and her son talked about the drawings before she kissed him good night. The refrigerator is also a fine place. The place chosen should show your child that you really do respect and enjoy the art work.

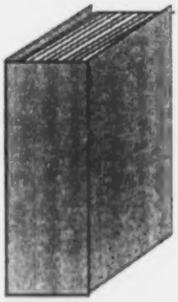


What Do Children Learn When They Draw?

Communication Development

Drawing is a wonderful way for children to express themselves—to communicate ideas and feelings. Involve your child in conversation as you draw together or ask your child to talk about the drawing when finished. When your child hands you a drawing with scribbles, avoid asking, *What is it?* Instead describe what you actually see. You might say, *You put many lines on this paper. Here they are going up and down. I see a round shape over here.* You might ask if your child would like to tell you about the drawing and offer to write down your child's words. If your child wants, these drawings and writings can be put together to form a book authored and illustrated by your child.

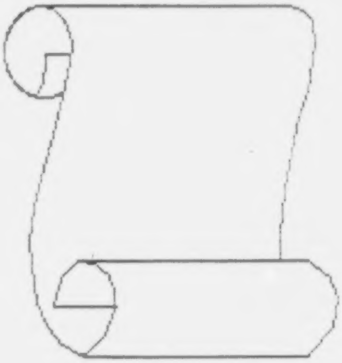
Cognitive Development



Very young children make marks on paper simply for the joy of seeing a mark as they move the drawing tool around the paper. As they gain more experience, children often use lines and shapes in drawings to represent their ideas. These lines and shapes later can become letters. As children develop, they learn to use letters to represent sounds. All of these steps are necessary prereading skills.

Physical Development

Mark-making with drawing materials helps children develop eye-hand coordination. When children are given the opportunity to experiment with a wide variety of drawing materials, they practice fine motor control. Hand movements become more controlled for a greater variety of marks; specific lines and shapes are formed; and marks are kept on the paper. These abilities are important prewriting skills.

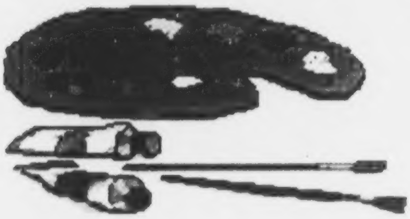


ArtExpress Family News

Painting with Children

Offer Painting Experiences to Young Children

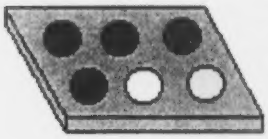
Painting is fun and creative. When children paint they plan and problem solve. They make decisions about what to paint, what colors to use, and where to place marks. Painting experiences enable children to express a wide range of feelings and emotions. Painting can be a soothing and calming activity. While painting, children nonverbally communicate about objects, ideas, people, places, experiences, events, and feelings. When an adult or peer is nearby, the child has the opportunity to communicate (using words or gestures) while painting or after the painting is complete. Painting gives children the opportunity to experience success.



Use Non Toxic and Washable Paint

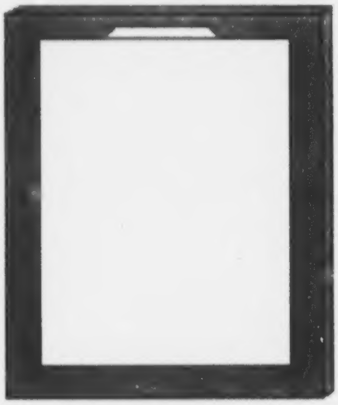
Finger painting is a good beginning to the painting experience. It offers children sensory and tactile experiences. Commercial finger paints are available. You can also make your own in several ways. Dissolve 1/2 cup of cornstarch in 1 cup cold water. Pour the mixture into 3 cups boiling water and stir until shiny and translucent. Allow to cool and use as a base. Stir in tempera paint or food coloring. You can also try non-menthol shaving cream and dry powder tempera or food coloring. Add glycerin to make the paint slick and smooth.

Non toxic and washable tempera paint is the best choice of painting for young children. The colors are so bright and mix together easily so the child can discover new colors. Because the colors are vivid, children with visual limitations can more easily see the marks they make. Tempera comes in three forms: liquid, powder, and cake. Liquid tempera is the easiest to use and gives the best results. Powder tempera needs to be mixed with liquid starch and water. Mixing should be done ahead of time by an adult. Tempera cakes can be used with water, like water colors. Tempera cakes are preferred over water color because the colors are more vibrant. Tempera cakes take less effort by the child to be successful.



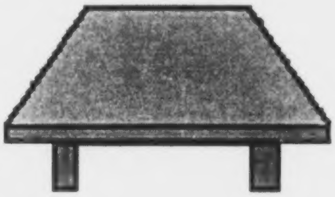
Find Places to Paint

Standing at an easel while painting encourages a child to use whole-arm strokes and total body movement. Because of the slant or angle of an easel, paint tends to run or drip down. Children can watch as colors mix as they drip. Table top easels are very



successful when used by young children in wheelchairs. When children paint on a flat surface, seated at a table, paint can be layered and built up. Paint is more controllable, but arm and body movements are more restricted.

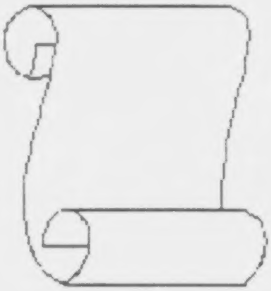
Standing at a table encourages the child to use whole body movement while painting on a flat surface and controlling the layering, mixing, or building up of color and shape of the marks.



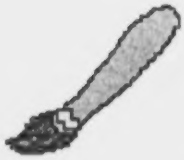
Painting on large paper that has been placed on the floor also provides a flat surface. Whole-arm strokes are used when children stand as they paint using large brushes or rollers with extended handles. A child in a wheelchair can also be successful with this activity.

Paper

Providing paper of different shapes and sizes challenges children to problem solve as they work around angles and decide where to place the paint marks.



Textured surfaces such as corrugated cardboard or sandpaper can provide interesting sensory experiences. Children with limited motor control can have the paper secured in place by taping all corners to the table, floor or easel.



Painting Tools

Young children need an easy-grip, large handle with round or flat bristles when painting. Attach adaptive grip devices to the paint tool or to the child's hand for children with limited grip control.

Many other types of brushes create varied effects and require the use of different muscles. Try toothbrushes, scrub brushes, feather dusters, shaving brushes, household paint brushes, pastry brushes, bath brushes, dish cleaning brushes, or whisk brooms. All of these alternative brushes can be fitted with adaptive grip devices. Children can also be encouraged to paint with a brush in each hand or with two brushes tied together.

Children can use many other tools for painting to encourage them to create and experiment with patterns and lines. Try potato mashers, roller bottles, bingo dabbers, eyedroppers, cotton swabs or cotton balls, sponges, combs, POPSICLE® sticks, feathers, string or yarn, spatulas, pipe cleaners, and cookie cutters.

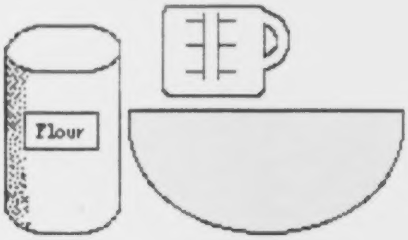
ArtExpress Family News

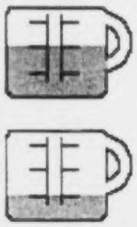
Playing with Play Dough

Play dough is good for creating, observing, and thinking about change. Once children know about play dough, they can begin to change it. Through these changes, children can think about how and why these changes occurred. Three changes that take place through the making of and playing with play dough are changes to texture, changes to color, and changes to shape.

Dry To Sticky

When you make play dough with your child, start with a large bowl, dry ingredients (flour and salt) a spoon, wet ingredients (food coloring, oil and water) and measuring cups. Take turns measuring and pouring the ingredients into the large bowl and stirring the mixture. Children learn math terms (1/4 cup, 1/2 cup, and whole) through measuring. When the mixture becomes hard to stir, take a glob of the mixture for each person and begin to squish, poke, roll, and pat. Knead the dough until it is smooth and the color is well-mixed. Add more flour if the mixture is too wet or more water if it is too dry. Children can watch the change in texture from dry to sticky. During the play dough making process ask, *Is it play dough yet?* Draw your child's attention to the changes occurring to the mixture. Play dough making is also a social time while you and your child take turns stirring and pouring. You can both decide when the play dough is done. When you and your child decide that "it's play dough," each take half and knead, poke, pound, squish, and roll.





Here's one of many recipes: Uncooked play dough: Mix 1 1/2 cups flour, 1/2 cup salt, 1/4 cup vegetable oil, and about 1/4 cup water (with a little food coloring added). Store the dough in an airtight container and keep it in the refrigerator.

Red
Yellow
Blue

Changes in Color

Instead of adding color during the play dough making process, you and your child can add color after "it's play dough." Using tempera paint or food coloring, invite your child to paint the blobs of play dough. Your child can paint the color on with a brush and then knead the play dough to change the color. Offer one of three choices of color: red, blue, or yellow. Later, or on another day, add another color and discover more changes. Adding yellow to red will make orange, adding blue to red will make purple, and adding blue to yellow will make green. Or make a well in the dough and add food coloring to the well. As the play dough changes color, it also may become sticky again. Sprinkle flour on the play dough and knead it

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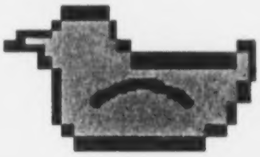
again. The play dough will loose its stickiness. Observing and controlling these changes will be very beneficial for your child.

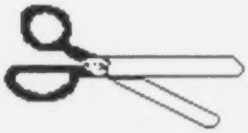
Changes in Shape

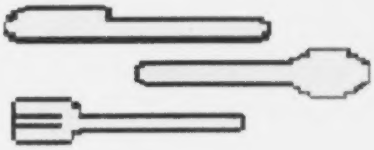
With some squeezing, patting, and rolling, children can change the lump of play dough into a ball, a snake, or a pancake. While children are discovering how to make changes, they are also learning about conservation, which means no matter how the shape of the play dough is changed, it is always the same amount.

Adding to the Fun



Keep plastic utensils, cookie cutters, safety scissors, and other things nearby so your child can work with the play dough in many ways. When changing a ball to a pancake, your child is changing, too. Your child might first pretend to be "Cookie Monster" eating cookies, then "Mom" or "Dad" making pancakes for breakfast.





Include props to encourage your child's pretend play while playing with the play dough. Add some sticks for candles and join your child in a birthday party.

The best part of making, working, and playing with play dough is that there is no right or wrong way to use it. Play dough making is a sensory experience. Ask your child how the dough feels, smells, and looks. Add rice or sand to it for texture. Try using the dough when it is cold. The next time you make a batch, experiment together with the quantity of each ingredient so your child can experience concepts such as oily, sticky, runny, mushy, floury, and thick. Language and emergent writing is developed as your child describes a project and sees you write down the words. Take a photograph of your child's project and begin a book. Under each photograph, add the written words your child said after finishing the play dough project.

ArtExpress Family News

Let's Pretend

Pretend play can also called dramatic play, sociodramatic play, and creative drama. No matter what the play is called, children use their imaginations to pretend to be adults or act out events that are important in their lives. When children pretend, imitate, and imagine, they may be trying on new roles, acting out everyday events, or reliving fearful or stressful life experiences. When pretending, children control the outcome and feel powerful over situations that might otherwise seem overwhelming. Here are some ways to encourage dramatic play in your home:

Where Families Fit In

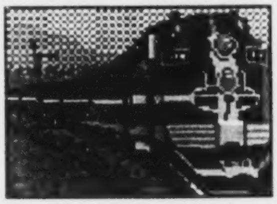
When it comes to playing "house," the most common roles are those of mommy, daddy and baby. Children usually use the roles that are in their family. For example, if a grandparent lives with the child, that person might show up in the child's play. Pretend play may center around cooking, shopping, driving a car, or cleaning a house. Using their dolls as babies, children imitate their parent's actions when washing or feeding their dolls. Sometimes, the child might get to be the baby and other children will take care of the baby.

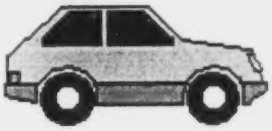
Build a Play House

Dramatic play activity does not need fancy or expensive equipment. Children can create wonderful play spaces with an old blanket placed over a table. Children can also spend many happy hours creating a play house from a large cardboard box. Carefully cut a window and a door. Invite your child to paint or decorate with markers or crayons. Crawl inside with your child and join the play. Pretend to be bears hibernating for the winter or play peek-a-boo. Follow along with your child and have fun.

Take a Trip

You and your child can line up a few chairs and take an imaginary trip. Add stuffed animal toys and dolls to take along on the trip. Add a small bag with paper cut into small pieces, a paper punch, and a pencil and your child can be a conductor on a train trip. The next time you and your child are driving in the car, look up at the clouds and comment on what you see. *What do those clouds look like? That one looks like...to me. What do you think?*





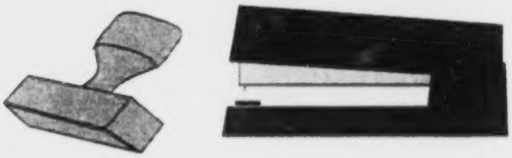
The Pretend Bag

Create a pretend bag using a bag, box, or basket. Together with your child, fill it with items such as bright pieces of material

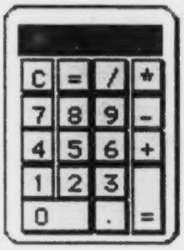
scraps, funny hats, old jewelry, purses, old shoes, and anything else that is safe and unbreakable that you no longer use. Store the pretend bag where your child can get it and put it away easily. A kitchen towel can become a super hero cape one day and a baby blanket on another day. Purses can be filled with small note pads, pencils, or markers for helping Mom to make a grocery list. If your child crawls up to you and growls, play along by saying, *What would you like, little puppy?*

A Special Place To Play

Help your child set up a play or work area with a special theme. If you just visited a friend with a new baby, set up a play nursery with your child. If your child has just visited your place of work, your child might want to act out what you do at work. Together, look for items that your child can use. If you work in an office you might collect paper, pencils, pens, paper clips, a stapler, blunt scissors, an old typewriter, and some "work" clothes. Add items as your child suggests and changes when he or she looses interest.



When pretending, your child uses materials in new ways, solves problems, and develops creative thinking skills. As children pretend with friends, adults, and materials, they learn to cooperate and experiment with new words and phrases. Sometimes children incorporate beginning writing and reading skills when pretending to read a story to a favorite doll or making a sign for the "grocery store." Beginning math skills are used when children pretend to count and sort toys. Small hand muscles are strengthened when children stir pretend ingredients or fasten dress-up clothes. When pretend play is active, your child is exercising and building large muscles. Dramatic play experiences help your child grow in many ways.



Grocery Store

ArtExpress Family News

Learning Through Music and Movement

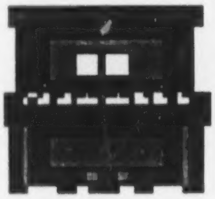
As your child spontaneously moves to a beat, sings a favorite song, hums, or vocalizes to music, your child is experimenting with, exploring, and practicing important developmental skills. When children sing and move, they get physical and creative exercise. They experiment with body movement and feel the sheer joy of freedom and growing control. Comfortable feelings related with belonging to and working in harmony with someone else are experienced when your child moves or dances with others.

As your child sings, new vocabulary and pronunciation are practiced. Small muscle control is practiced as your child claps, taps, snaps, and moves to finger plays. Children begin to identify beats, rhythms, tones, and sounds in the environment; they exercise auditory discrimination skills—an necessary for reading. Enjoy music and movement together with your child by trying some of the following activities:

- Very young children love to be rocked to the beat of music or patted or rubbed gently on the back to the beat of a favorite song.
- When enjoying music with your child, begin with your tastes. Have fun, turn on the radio, and dance around the kitchen together! Move rhythmically to the sound of the vacuum cleaner! The more comfortable you feel, the more your child will feel comfortable to join the fun.
- Ask your child's teacher to write out the words to some songs they often sing in class. Also, listen to your child. If you hear your child sing a few lines of a tune, you might join in—helping your child learn a little more of the song, practice the words, or just feel good that you are sharing an important part of life. Encourage original spontaneous music, too.
- As you and your child go through your daily jobs and routines, notice the rhythms around you, the *tap, tap, slide* of slippers on the floor; the quick *kerpluncks* of the rain on the roof; the *thump, bump-bump, thump* of sneakers in the dryer. Also, notice the sounds that seem to attract your child's attention. Listen together. Try to recreate rhythms using your hands or feet, or making the sounds with your mouth.

- Put your hand on your child's wrist or neck pulse and tap your foot or nod your head to the beat. You might explain that you can feel his or her blood pumping. Then help your child feel yours. Try this as you're waiting your turn at the doctor's office or putting your child to bed. Patting the child's back to the beat of the heartbeat may help relax your child, too.

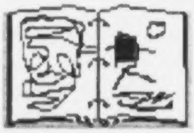
- Anything you can bang, ring, strum, or shake can be a musical instrument. Together, choose a couple of special boxes, baskets, or bags and decorate them. Search for items that make interesting noises—a pencil and a block, a rock and a piece of sandpaper, or a few large beads in a capped plastic container. Put them in your specially decorated music box. When the two of you feel like being noisy, bring them out and make music together.



ArtExpress Family News

Sketchbooks in Your Home

Have you ever given any thought to having your child use a sketchbook at home? Many children enjoy drawing and children can develop of sense of time and history as they go back to work on different pictures. Teachers, parents, and children can look at progress made since the drawings are bound together.



A sketchbook can become a mini-porfolio. Sketchbooks don't have to be fancy. They can be made by stapling several sheets of paper together. Three-ring binders or scratch pads can also be used.

When children are given time to create on their own, they sometimes work for longer periods of time and are more interested in the activity. Some children may take a sketchbook, make marks on every page very quickly, close the book, and smile at you as if they are done with a job. Don't worry, just try it another time.

Children like to have an adult nearby so they can have their work recognized. When talking to your child during a drawing activity, focus the talk about the art work that is being done. You can talk about the types of lines they have made. Describe them—are they thin, thick, long, short, straight, curvy, or wavy? What colors did they use—are they bright, dark, or light? Sometimes colors can make you feel different ways. Reds, yellows, and oranges are warm colors. Blues, greens, and purples are cool colors. Most young children have favorite colors or choose colors without giving thought to how an object really looks. Choices may be due to high contrast with the paper or the color may just be the closest one to reach.

Children who can not use everyday drawing tools with adaptations can get the same benefits with a little creative thinking on your part. A Magna Doodle® with film canisters covered with magnets work for some children. Be sure to cover all surfaces so that whatever surface touches the screen will leave a mark. Unfortunately, Magna Doodles do not allow a child to go back to a picture unless the picture is not erased.

There really isn't a way to make a permanent record of these drawings, so if you have a computer at home, try that! Pictures created by children using *Kid Pix*® can be saved to be returned to at anytime. Create a slide show of the child's work. When viewing the slide show, the child can decide if there is a picture that needs more work or not. The child could point, speak, or use other gestures to indicate which picture is desired.

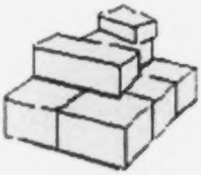
Drawing in the sketchbook could become a daily routine. Set up a special time for your child to draw, whether it be while dinner is being fixed or as a bedtime routine. Enjoy this time with your child.

Reference: Thompson, C. M., (1995). "What should I draw today?" Sketchbooks in early childhood. *Art Education, 48* (5), 6-11.

ArtExpress Family News

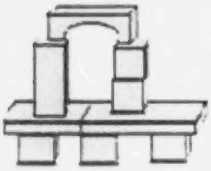
Playing with Blocks

Building with blocks is a great way for children to develop skills and have fun. As children build, they use their imaginations to create roads, bridges, houses, and more. Children gain self-confidence as they complete a structure and stand back to admire it. They strengthen muscles and develop motor skills as they stack, grasp, lift, push, carry, balance, and reach.



Blocks of All Kinds

Commercial blocks are great, but you and your child can also make blocks together. Make giant blocks by crumbling and stuffing newspaper inside empty disposable diaper boxes. Tape them shut and cover with colorful Con-tact® paper or glue on the Sunday comics. Blocks can be made from a variety of different size empty food boxes. Some baby wipe containers make interlocking blocks. Make rectangular blocks from milk cartons or shoe boxes. Check with your local lumber yard for scrap pieces of wood, cut in different sizes and sanded carefully. Velcro® pieces attached to small blocks or magnet blocks work well for children who have limited motor control. Small blocks can also be played with at a table or on a wheelchair tray.



Building Spaces

Provide a flat building space in your home that is away from busy traffic areas so your child's creations won't get bumped or be in anyone's way. Provide plenty of time to play with the block structure. This type of space will also let your child leave the structure up overnight or decide when to take it down. Make a storage space on a low shelf so your child can easily put away the blocks.

Children Learn While Block Building

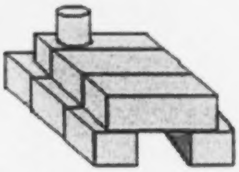
Problem Solving Skills

Block building provides children with many opportunities to make decisions. Ask questions as you build together. *What will happen if we add another big block here? How can we make a window in the middle of this wall?* As your child handles and carries blocks, talk about the different weights, sizes, and shapes. Use words like wide, tall, short, and little. Children learn about gravity, patterns, and balance when building with blocks. As you are building tall towers together, count how many blocks are used. Together, see how many small blocks it will take to be the same length as the longest block.

Communication and Language Skills

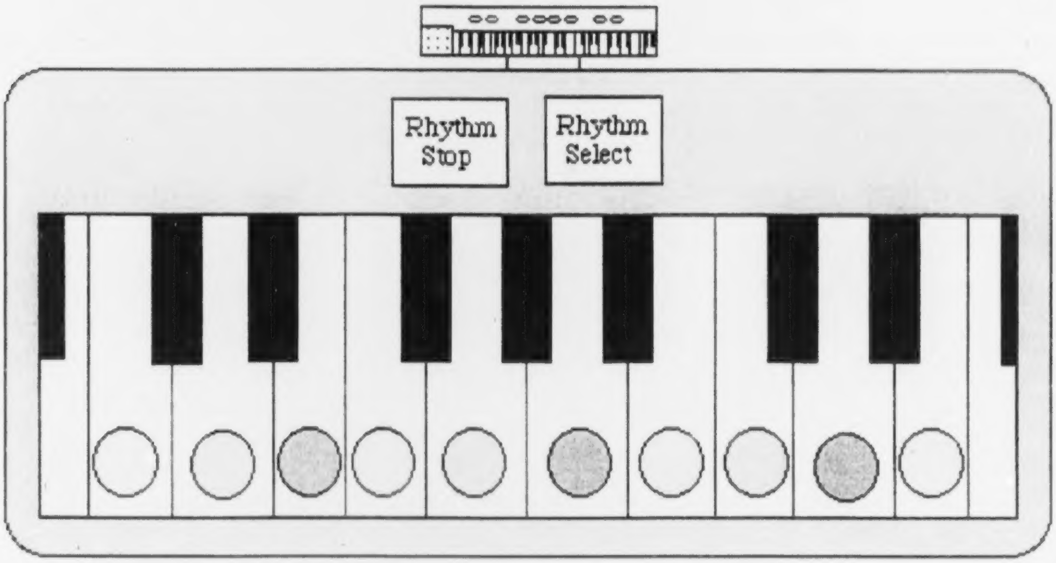
When you are building or putting away blocks with your child, use words to describe what you're doing. *The square blocks are making that long line. The long ones go over here.* Encourage awareness of same and different, big and small. You might try making labels for finished structures. Write a story about the road you made together. You can write as your child dictates. Before the structure comes down, take a photograph and put it with the story you wrote together.

Take imaginary trips together. Build roads with blocks. Add houses and buildings along the way. Build trucks, trains, or cars to ride in. Build a zoo or farm and find small toy animals to put in and act out the different parts.



ArtExpress Family News

The Music Mat



Dear Family,

Today your child made music with a large, floor Music Mat. It is attached to a small keyboard by hidden wires and switches. The Music Mat looks like the one used in the movie *BIG*. It looks like a piano or keyboard. When your child walks, crawls, pats, or rolls on it, or moves a wheelchair over it, the music is activated by the hidden switches and musical notes are heard. Children can make music by themselves or with their friends and classmates. Anyone who can activate a switch can create and play music using the Music Mat.

Music is very important in everyone's lives every day, as we work, study, play, or ride in a car. Many children learn through remembering melodies of songs and rhythms they hear.

Encourage your child to create his or her own songs. Try singing silly songs or playing music as you and your child play together.

ArtExpress Family News

The **ARTtaché** is a colorful child-sized tote bag or back pack filled with art supplies. It will be sent home with your child on Monday after school and should be returned the following Monday morning. The **ARTtaché** offers your family members an opportunity to work with your child to create art projects which can be brought to school and discussed with the other children in the class on the Monday the case is returned. A letter, included inside the **ARTtaché**, explains the process. Family members are invited to accompany the child to school to discuss their project.

Materials included in the **ARTtaché** might include:

- Letter to families explaining ways to use the materials
- Paper in assorted sizes, textures, and colors
- Assorted markers, crayons, colored pencils
- Paints and brushes
- Hole punches
- Glue stick, paste, glue
- Stapler
- Old magazines to cut up
- Yarn
- Sequins, glitter
- Wallpaper samples
- Scissors
- Clay or play dough with recipe

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ArtExpress Family News

Sample Family Letter

Dear Families,

Your child has brought home a special bag, we call it the ARTtaché. Our classroom has several different bags. Each child picks the bag that he or she wants to take home. The bags go home on a Monday and come back the next Monday. In the bag your child chose are several pieces of paper, a variety of markers, crayons, colored pencils, and hole punches. You and your child can create art work together using these materials.

Next Monday, please help your child to pack the markers, crayons, colored pencils, and hole punches in the bag and send it back to school. Please also send the art work to school. All of the children who took home an ARTtaché will display their work on a special bulletin board. They will also have time to tell the other children about their art work. You are welcome to join your child to tell the class about the art work you and your child created. We have are discussion time at 9 am on Monday morning.

In the bag I have put a page in for you as well. It is a comment page for you to fill out and tell me what you liked or disliked about the bag. A page is included for you and your child to work on together. Please help your child to draw or write about what he or she liked about the bag.

Thank you,

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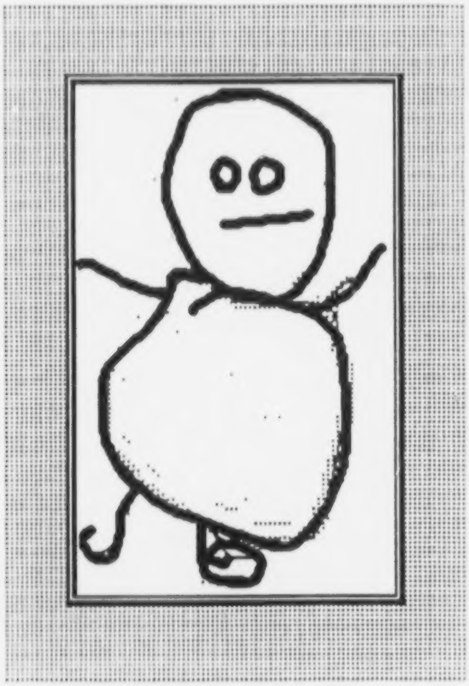


The Refrigerator's Full, Now What??!

Matting Children's Art Work

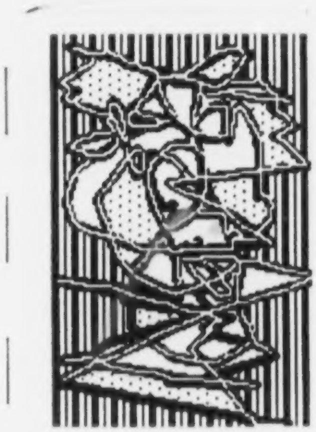
Materials:
- Your child's drawing or painting
- Construction paper
  Look for a color that repeats a color in the drawing or painting.
- Scissors
- Stapler or glue

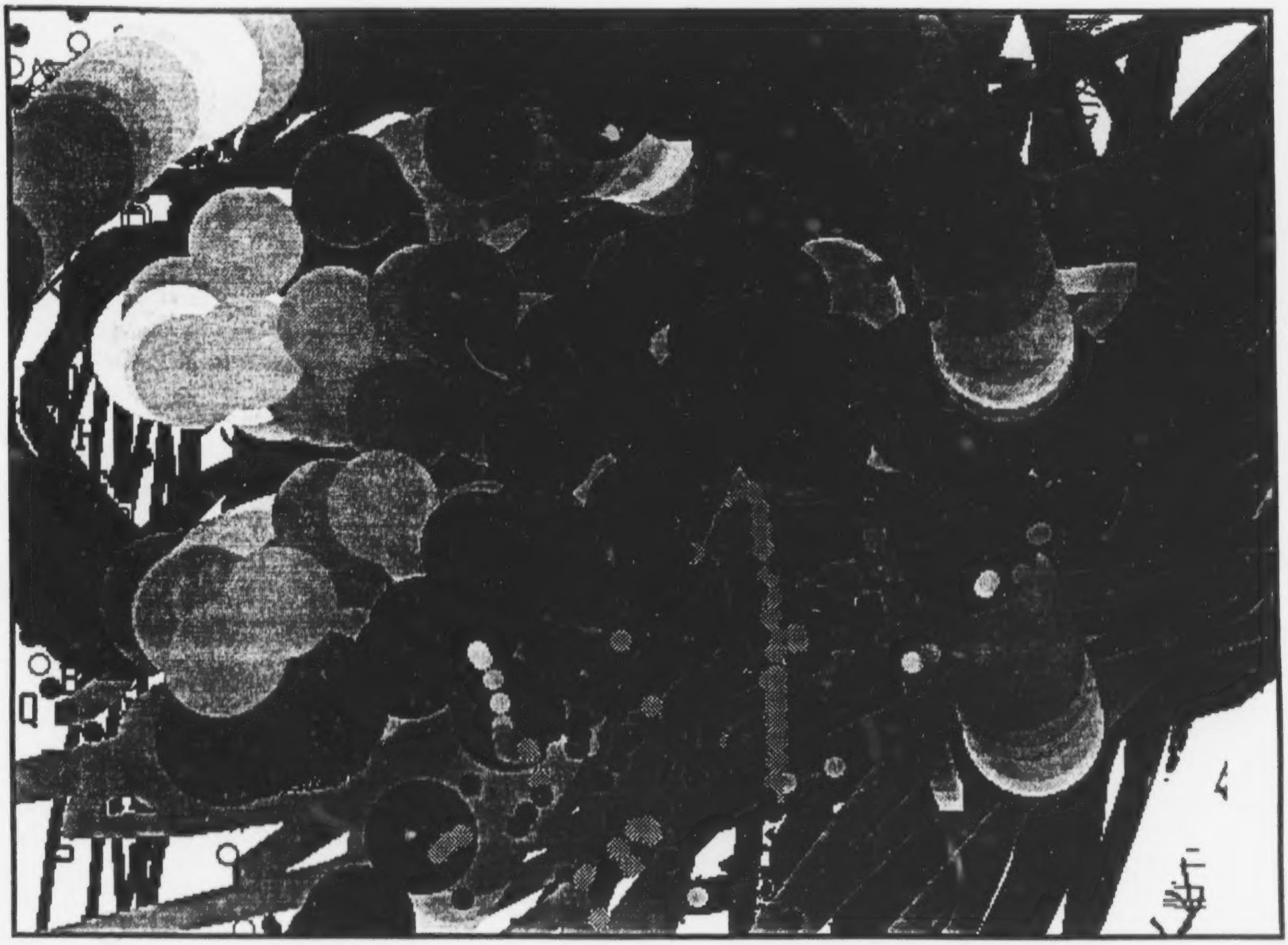
What To Do:
- Cut the construction paper at least two inches larger than the drawing or painting on all sides.
- Staple or glue the child's art work to the construction paper.
- Give to relatives as gifts.
- Display in honored places.

Changeable Books

Materials:
- Three or four plastic zippered bags
- Cardboard, tag board, or heavy construction paper
- Scissors
- Stapler
- Tape (electricial or water proof plastic tape)

What To Do:
- Line bags up evenly on the side that does not "zip" open; staple together
- Tape securely over stapled edge.
- Cut a piece of cardboard, tag board, or heavy construction paper to fit inside each bag.
- Each bag or page can hold two child drawings. Change the pages of the book as often as you and your child want. Try also with photographs or cut out magazine pictures.





Chapter Eleven
Assessment

See How They Grow

Mistress Mary , quite contrary, how does your garden grow?
With silver bells, cockle shells, and pretty maids all in a row.
Traditional Children's Rhyme

Using the garden metaphor, we can better understand that each teacher's garden of children will look different and grow at different rates and in different directions. *ArtExpress* has developed assessment tools that respect the individual needs, interests, abilities, learning rates, and learning styles of each child in the teacher's garden. These assessment tools document each child's individual growth over time and children's skills are not tested against others.

ArtExpress assessment tools have been used to document children's growth. Children showed growth over time in all areas, regardless of their starting points. Children's *Visual Art Developmental Checklist* scores in communication improved in every category on every communication item over the course of the assessments. Several items related to emergent literacy (recognizing the association between spoken and written words, using symbols or scribbles to "write," and writing using mock letters and real letters) also increased. This occurred at all sites and across all ages. *The Visual Art Rating Scale* showed increases in children's marks, experimentation, inventiveness, details, recognition of the relationship between the image and the size and shape of the paper, and communication. Many children produced a wide range of symbols and placement patterns and progressed slowly toward making recognizable images. The images these children made followed the same cross-cultural progression found in "typical" children by Kellogg (1970) and others.

Assessment reflects individual achievements and abilities. Skills, abilities, and knowledge can be documented through a variety of assessment tools. Child assessment and teacher self-assessment can also assist in discovering if the teaching methods being used are effective.

The inappropriateness of standardized achievement tests for children below third grade is well documented (Bredekamp & Rosegrant, 1992; Bricker & Cripe, 1992; Linder, 1990; Meisels & Steele, 1991). The content of such tests is generally abstract and potentially biased against children unfamiliar or uncomfortable with test-like activities and with middle class manners and mores. Standardized tests limit themselves primarily to the linguistic and mathematical intelligences. Little can be learned from the results of standardized tests administered to young children. The data may tell us a child's percentile ranking on a sub-test, but they cannot tell us whether the child's performance reflects an inability to follow the test directions or whether the child did not have mastery of the information or skill.

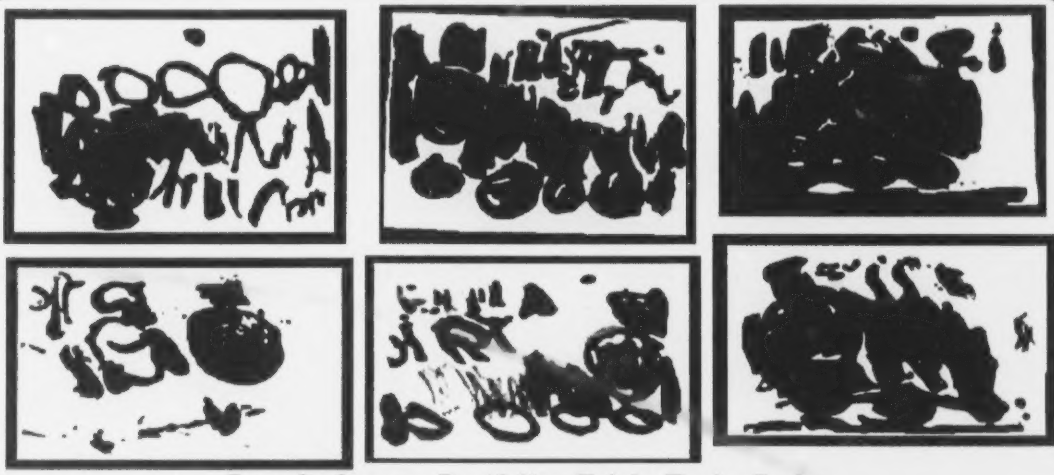
Authentic assessment of expressive arts activities requires teacher observation. Some teachers find it helpful to carry a small note pad or sticky notes so they can quickly jot down notes at the time the observation takes place. Snippets of conversations, social interactions, and cognitive developments are just a few of the things teachers can observe during expressive arts activities. When observations occur on a regular basis and are placed in a child's portfolio, the observational notes can be helpful in filling out checklists and in documenting progress.

Be realistic when starting systematic observations; don't try to get an observation on every child every day. Make a list of which children will be observed each day; of course, if something stands out during the day, write it down even if it's not that child's "day" to be observed. Teachers have reported that once they began using observations as part of the assessment, they realized that they hadn't really observed individual children before, but paid more attention to group dynamics. As teachers became more experienced in observation, they valued it more and it became routine. An added benefit of taking notes during class is that some children pick up on the teachers' doing this and begin to carry paper and pencils and write alongside the teachers. Teachers realized this was another way to develop emergent writing skills!

The developmental checklists in this chapter assess the growth of children with disabilities while engaged in daily and ongoing *ArtExpress* activities. The instruments focus on the whole child, rather than on only one aspect of development. This type of performance-based assessment is flexible enough to reflect individual achievement. It is designed to evaluate many elements of learning and development through *ArtExpress* that cannot be captured by standardized tests. The checklists are designed to assist teachers in observing and documenting an individual child's growth and progress. They are intended to reflect common characteristics and behaviors which occur during expressive art activities. The tools show the abilities and accomplishments of the child, how the child grows, and the rate of growth, instead of focusing on what the child does not know. Teachers are able to complete the checklists through observation without testing children.

A section on how to collect the child's visual art images in individualized portfolios is included. Portfolios can provide documentation of each child's experiences throughout the year. Portfolio collection enables the child to become involved in the process of the selection and self-evaluation of their work. Collecting portfolio items on a regular basis (perhaps weekly) allows the portfolio to become a tool to document, analyze, and summarize a child's growth and development through the entire school year.

The *Visual Art Developmental Checklist* covers children's expressive art development within five domains: Cognition, Communication, Social Development, Fine Motor Development, and Gross Motor Development. Each domain is divided into functional components containing performance indicators that represent important skills, knowledge, behaviors, and accomplishments, including performing the activity with or without assistance. *The Child Visual Art Image Assessment* measures child growth in the visual arts using Kellogg's developmental stages. *The Visual Art Rating Scale*, adapted from Torrence's (1966) creative thinking concepts, creates a profile of the individual child's progress according to fluency, flexibility, originality, elaboration, image, and use of space.



Sample from a Portfolio: Eric's Train Series

This chapter includes a self-evaluation form that teachers can use to demonstrate their knowledge when developing and implementing the Visual Art Component in an Expressive Arts Program. Part One addresses general knowledge and Part Two addresses specific skills in implementing the Visual Art Component of *ArtExpress*.

Document Children's Growth

A portfolio is a purposeful collection of a child's work documenting the child's efforts, products, and growth over time. Portfolios can be easily adapted into a program. They are practical and useful as reporting and planning tools. The collection can reflect the child's participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of child self-reflection. Portfolio data collection helps teachers come to know the child in depth.

Assessing Products

Portfolio assessment compliments a curriculum that respects the individual needs, interests, abilities, learning rates, and learning styles of each child. Early childhood staff, support staff, and families can maintain ongoing records of the amount of time the child spends on activities and the nature of the activity. Records on family participation and satisfaction can also be collected. Child outcomes can be measured by analyzing art images in the portfolio according to Kellogg (1970) and analyzing emerging symbols of writing that often accompany children's drawings according to Dyson (1986), Barclay (1990), Jalongo (1992), and Jalongo & Stamp (1997).

What are the benefits of portfolio assessment to the child? Portfolios involve the child in the assessment process and in selecting work samples to put in the portfolio (Engel, 1995; Valencia, 1990; Wolf, 1989). Portfolio assessment reflects the individuality of the child. It gives the child ownership of the process as well as the product; it encourages the child to evaluate his or her own work; it supports the child's chances for success, competence, and self worth; and it documents the child's growth over time.

What are the benefits of portfolio assessment to the teacher? It increases teacher awareness of how children learn; it links activities, learning, and assessment in an interactive way; it supports and guides curriculum planning; and it serves as a vehicle for communicating with parents.

How does portfolio assessment benefit families? Portfolios can be an effective tool to show growth during parent-teacher conferences; displayed at an open house, art party, or workshop; and given to the families at the end of the year. Save and include family surveys, forms, and responses to requests for donations of classroom materials in newsletters in the child's portfolio. Date all portfolio entries.

Portfolios provide authentic assessment by reflecting the child's actual classroom work. A broader range of cognitive skills can be assessed. Evaluations are more reliable using more than one sample of performance. Both process and outcome can be assessed. This results in a more thorough evaluation and allows comparisons of work over time. Portfolios provide valuable information for effective planning for learning. Portfolios involve children in their own assessment by enabling them to select work samples to put in the portfolio (Valencia, 1990; Wolf, 1989).

Organizing a Portfolio by Domain Skills

Portfolios can contain samples of a wide variety of items and be organized by domain skills to document a child's growth (Meisels and Steele, 1991). The following suggests items to include in the child's portfolio.

To document the **cognitive development** of a child, include

- photographs of the child measuring or counting specific ingredients while making play dough.
- observational notes concerning the child's problem-solving abilities, predictions, and generalizations relating to sculpting materials or other media.
- child's drawings or paintings collected over time to analyze the details added to images.

To document the **communication development** of a child, include

- samples of the child's emergent writing.
- anecdotal notes of the child's participation in songs, fingerplays, and rhymes.

- observations of dramatic play experiences.

To document the **fine motor development** of a child, include
- samples of child's drawings, emergent writing, paintings, collages, and computer art work.
- observational notes concerning the types of grips being used to hold various tools.
- photographs or sculptures and block structures.

To document the **gross motor development** of a child, include
- photographs and videotapes of the child participating in movement activities.
- anecdotal notes about the child's use of large muscles in art, music, movement, and dramatic play activities.

To document the **social and emotional development** of a child include
- observational notes that document appropriate use of expressive arts materials.
- anecdotal recordings of the child's interactions with peers and adults in the classroom.
- audio and video tapes of the child involved in music, visual art, and dramatic play, working alone or in a group, communicating, problem-solving, and making choices.

Using Technology to Create a Portfolio

- Photograph each child at the beginning and end of the year using a digital camera. Place the pictures in computerized records.
- Keep important information about the child on disk.
- Record the child "in action." Specific portions can be viewed or listened to during conferences.
- Record audio tapes of child conversations as they work and problem solve, recite poems, action rhymes, and songs. Videotape the child participating in plays, reading books, and playing at the computer.
- Scan drawings or photographs of children's work and save on a disk.
- Store short video clips of the child in a computer program.
- Store software programs children made using *HyperStudio* on disk.
- Store written and verbal messages from programs such as *KidDesk* and *Kid Pix* on disk.
- Store art work on disk from programs such as *Kid Pix*.
- Provide a disk for each child's data. Label with the child's computerized photo.

Getting Started and Using Portfolios

Getting Started

Use the following guidelines when starting portfolios for children.

- Start small.
- Establish a schedule for collecting material.
- Select work to show and celebrate growth.
- Trust your professional judgment.

Portfolio Contents

- Representative samples of children's art products collected regularly and dated. These can include drawings, paintings, and computer graphics.
- Photos of block constructions, clay or play dough sculptures, collages, or projects, labeled and dated.
- Photos of children participating in an art process or activity.
- Child descriptions or explanations of art work. The adult can write this and include it with the art work.
- Samples of the child's emergent writing.
- Observational notes made by the teacher, including the child's progress in the domain skills.

Preserving Collections

- Hard copy can be saved and bound into book or folder format. When using the computer to produce visual art and other products be sure to save information on disk.
- Photographs of the art and other products can be taken using a digital camera (such as QuickCam) and stored on disk for each child, or the entire collection of photographs can be compiled into a unique CD-ROM representing the work of a group of children, through a CD production system created by Kodak. Store the disk with a disk holder in the album.
- The work can be videotaped using a high quality 8mm camera and maintained on film or small videocassettes, each storing 120 minutes of video, more than enough for recording images from several children's work.
- A videotape record of each child's progress can easily be maintained and the images can be used on caption videotape or a computer screen.
- Images can also be printed with a color or black and white printer for use in written materials.
- Analyses of images, according to Kellogg (1970) and others, can be made from these sources.
- Store these portfolios in an area free from moisture, dampness, and extreme changes in heat.

More Helpful Hints

- Use portfolios to broaden your assessment. Decide what domain objectives are not being evaluated adequately and use the portfolio to fill the gap.
- Use large expandable folders or folders with pockets to store portfolio contents.
- Keep the portfolio in the classroom.
- Make a cover sheet that summarizes information found in the portfolio. Include dates when contents were reviewed with the child and the family.
- Include checklists, rating scales, conference notes, anecdotal records, and other assessment information.
- Ask children to select work to go into their portfolio. Assist them in analyzing what there is about each piece that caused them to make the choices. Help the child determine what could be done differently in the future to improve the pieces the child does not like as well.
- Select, jointly with the child, several pieces from the portfolio that can be passed along to the next year's teachers.

Sample Form

Visual Art Developmental Checklist

Name: ________________ **Birth Date:** ____________

Site: ________________ **Observer:** ______________

Directions: Please mark the child's present status relating to visual arts activities in the appropriate box. Information can come from observations, notes, or products.

Cognition

	Does not do	Does with assistance seldom	Does with assistance occasionally	Does with assistance frequently	Does independently seldom	Does independently occasionally	Does independently frequently
1. Explores a variety of visual arts during free choice times.							
2. Participates in visual arts activities.							
3. Engages in a variety of new as well as routine visual arts activities.							
4. Demonstrates flexibility and resourcefulness during expressive arts activities.							
5. Increases time on task.							
6. Demonstrates knowledge of basic visual concepts.							
7. Develops mental images and represents them through visual art.							
8. Increases number of symbols (fluency).							
9. Uses materials in a variety of ways (flexibility).							
10. Develops recognizable symbols.							
11. Adds detail to drawings, paintings, and sculptures (elaboration).							

Communication

1. Listens and understands simple directions.							
2. Listens and understands more complex instructions.							
3. Increases talking or signing with peers.							
4. Increases talking or signing with adults.							
5. Recognizes association between spoken and written words.							
6. Uses scribbles or symbols to "write".							

Sample Form

	Does not do	Does with assistance seldom	Does with assistance occasionally	Does with assistance frequently	Does independently seldom	Does independently occasionally	Does independently frequently
7. Writes using mock letters, real letters, or both.							
Social Development							
1. Demonstrates initiative in expressive arts activities.							
2. Follows rules and routines.							
3. Takes turns with others.							
4. Shares with others.							
5. Uses classroom materials appropriately.							
6. Adjusts to transitions.							
7. Stays on tasks and seeks help when encountering a problem.							
8. Interacts positively with peers in play.							
9. Interacts easily with familiar adults.							
10. Seeks adult help (when appropriate) to resolve conflicts.							
Gross Motor Development							
1. Uses large muscle, whole arm movements in art activities.							
2. Crosses the mid-line when drawing, painting, or constructing.							
Fine Motor Development							
1. Manipulates and grips visual art materials and tools appropriately.							
2. Uses wrist motion when drawing or painting.							
3. Draws or paints with a relaxed grip on tools.							
4. Controls scribbles or markings so they stay on the paper.							

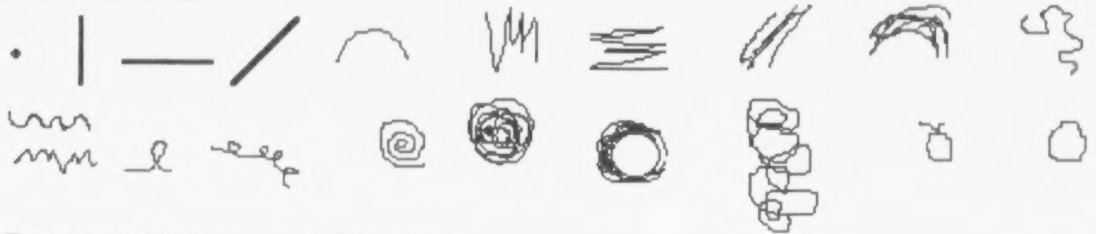
Sample Form

Visual Art Image Assessment

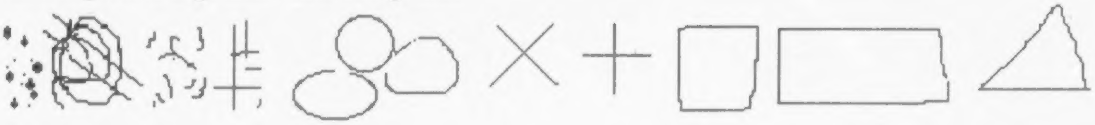
Child's Name ________________________________ Child's Birth Date ____________
Name of School or Program ____________________ Observer __________ Date _________

Directions: This form is intended to measure child growth in the visual arts using Kellogg's (1970) developmental stages. Fill out one form at the beginning of the school year (Oct.), one in the middle of the school year (Feb.), and one at the end of the school year (May). Please circle the images or names that most appropriately reflects the child's products when using drawing or painting tools.

Basic Scribbles

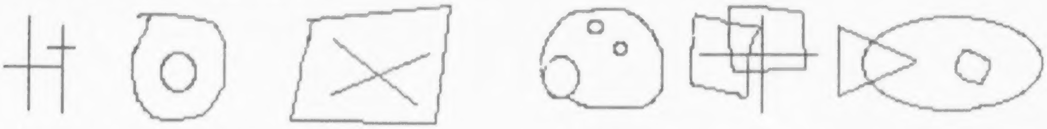


Emergent Diagrams and Diagrams



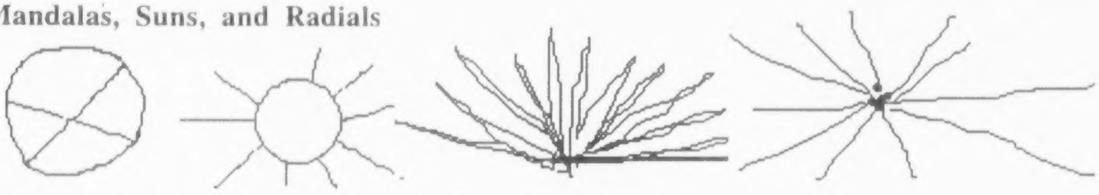
Emerging Diagrams - Ovals & Circles - Diagonal & Greek Cross - Squares & Rectangles - Triangles

Combines and Aggregates



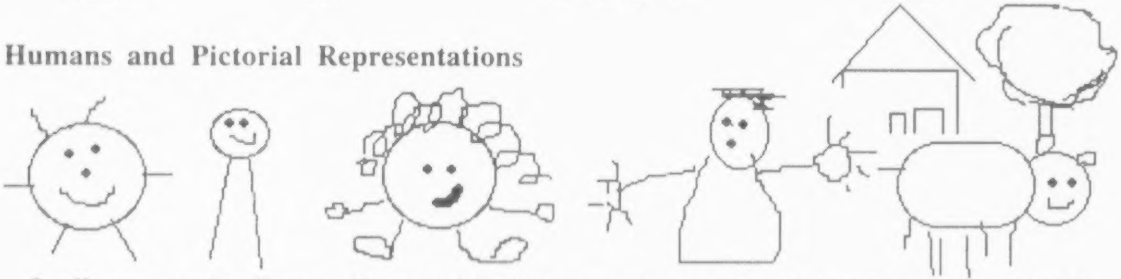
A combine is two diagrams forming an image. An aggregate is three or more diagrams to form an image.

Mandalas, Suns, and Radials



Mandala Sun Baseline Radial Radial

Humans and Pictorial Representations



Sun Human - Armless Human - Human with head markings - Human with varied torso - Pictorials

ArtExpress • Macomb Projects • 27 Horrabin Hall • Western Illinois University • Macomb, Illinois 61455 • 309/298-1634 • Fax: 309/298-2305

Sample Form

Visual Art Rating Scale

Child's Name: ____________________ **Birth date:** ________ **Date:** ________
Program: ____________________ **Observer:** ____________________

Directions: This scale is intended to measure a child's growth over time. Fill out one form at the beginning of the school year (Oct.), one in the middle of the school year (Feb.), and one at the end of the school year (May). Please circle the number that most appropriately reflects the child's products when using drawing and painting tools, or play dough and blocks.

Fluency: This is a skill derived from practice or familiarity. The process involves a child's repetition of a single mark, scribble, or image on numerous products over time as attempts are made to gain mastery before going on to the next mark, scribble, or image.

Number of images	1-2	3-4	5-6	7-8	9+
	1	2	3	4	5

Flexibility: The child's visual vocabulary increases through experimentation with new marks. As flexibility is developed, an increased variety of marks and images are present. The variety of marks or images can be seen on one work or on many.

Types of marks	1	2-3	4-5	6-7	8+
	1	2	3	4	5

Originality: Child demonstrates a fresh, independent, inventive approach when putting marks and images on paper.

1	2	3	4	5 marks combined in unique, imaginative ways to create unusual images

Elaboration: Marks are combined to form diagrams, combines, aggregates, or mandalas or details added to representational images become more complex.

1	2	3	4	5
scribbles, few details	forms with some detail	combining forms, adding detail	recognizable image with detail	very detailed, complex image

Space: The child purposefully arranges marks or images on paper, using both positive and negative space to create balance. Demonstrates awareness of the relationship between the image made to the size and shape of the paper used.

1	2	3	4	5
marks go off paper	marks stay on paper	marks are random and unorganized	placement of marks are purposeful	marks are organized and integrated

Image: The child communicates through images or symbols that represent an idea, feeling, person, animal, or object.

1	2	3	4	5	6	7
scribbles	vague diagrams	forms or diagrams	combined diagrams	mandalas, suns, and radials	people pictorial	recognizable

Sample Form

Expressive Arts Competencies

Early Childhood Site ______________________________ Date __________

Name of Staff ______________________________

General Knowledge and Skills

Please rate your Competencies in implementing the Visual Component of the Expressive Arts Curriculum using a scale of 1 (poor) to 5 (excellent).

1. My knowledge related to the importance of the visual arts in an early childhood curriculum.
   1 2 3 4 5

2. My knowledge related to developmental stages in children's scribbles and emerging symbols.
   1 2 3 4 5

3. My ability to explain the rationale which provides a strong basis for including art activities in programs for young children with disabilities.
   1 2 3 4 5

4. My skill in determining and implementing developmentally appropriate art activities.
   1 2 3 4 5

5. My skill in recognizing examples of children's art at different developmental stages.
   1 2 3 4 5

6. My skill in making adaptations for children with disabilities, including the use of computer graphics with alternative input devices.
   1 2 3 4 5

Specific Skills

Please rate your specific skills in implementing the Visual Art Component of the Expressive Arts Curriculum using the following scales.

Poor	Fair	Average	Very Good	Excellent
1	2	3	4	5

1. I plan appropriate child-directed activities in drawing for children demonstrating different developmental levels.
   1 2 3 4 5

2. I plan appropriate child-directed activities in drawing for children with different disabling conditions.
   1 2 3 4 5

Sample Form

3. I adapt drawing materials to meet individual child needs.
1 2 3 4 5

4. I select developmentally appropriate drawing materials to meet individual child needs.
1 2 3 4 5

5. I organize materials for drawing activities.
1 2 3 4 5

6. I arrange the physical environment for drawing activities.
1 2 3 4 5

7. I implement drawing activities.
1 2 3 4 5

8. I facilitate drawing activities.
1 2 3 4 5

9. I respond appropriately to child's drawing projects.
1 2 3 4 5

10. I analyze children's drawing in terms of developmental stages.
1 2 3 4 5

11. I plan appropriate child-directed activities in painting for children demonstrating different developmental levels.
1 2 3 4 5

12. I plan developmentally appropriate child-directed activities in painting for children with different disabling conditions.
1 2 3 4 5

13. I adapt painting materials to meet individual child needs.
1 2 3 4 5

14. I select developmentally appropriate painting materials to meet individual child needs.
1 2 3 4 5

15. I organize materials for painting activities.
1 2 3 4 5

16. I arrange the physical environment for painting activities.
1 2 3 4 5

Sample Form

17. I implement painting activities.

1 2 3 4 5

18. I facilitate painting activities.

1 2 3 4 5

19. I respond appropriately to child's painting projects.

1 2 3 4 5

20. I analyze children's painting products in terms of developmental stages.

1 2 3 4 5

21. I plan appropriate child-directed activities in three-dimensional projects for children demonstrating different developmental levels.

1 2 3 4 5

22. I plan appropriate child-directed activities in three-dimensional projects for children with different disabling conditions.

1 2 3 4 5

23. I adapt three-dimensional materials to meet individual child needs.

1 2 3 4 5

24. I select appropriate three-dimensional materials to meet individual child needs.

1 2 3 4 5

25. I organize materials for three-dimensional activities to meet individual child needs.

1 2 3 4 5

26. I arrange the physical environment for three-dimensional activities.

1 2 3 4 5

27. I implement three-dimensional activities.

1 2 3 4 5

28. I analyze children's three-dimensional products in terms of developmental stages.

1 2 3 4 5

29. I facilitate three-dimensional activities.

1 2 3 4 5

30. I respond appropriately to children's three-dimensional constructions.

1 2 3 4 5

Sample Form

31. I integrate visual arts activities into at least three content areas.
1 2 3 4 5

32. I can list examples of the benefits of the visual arts in early intervention programs.
1 2 3 4 5

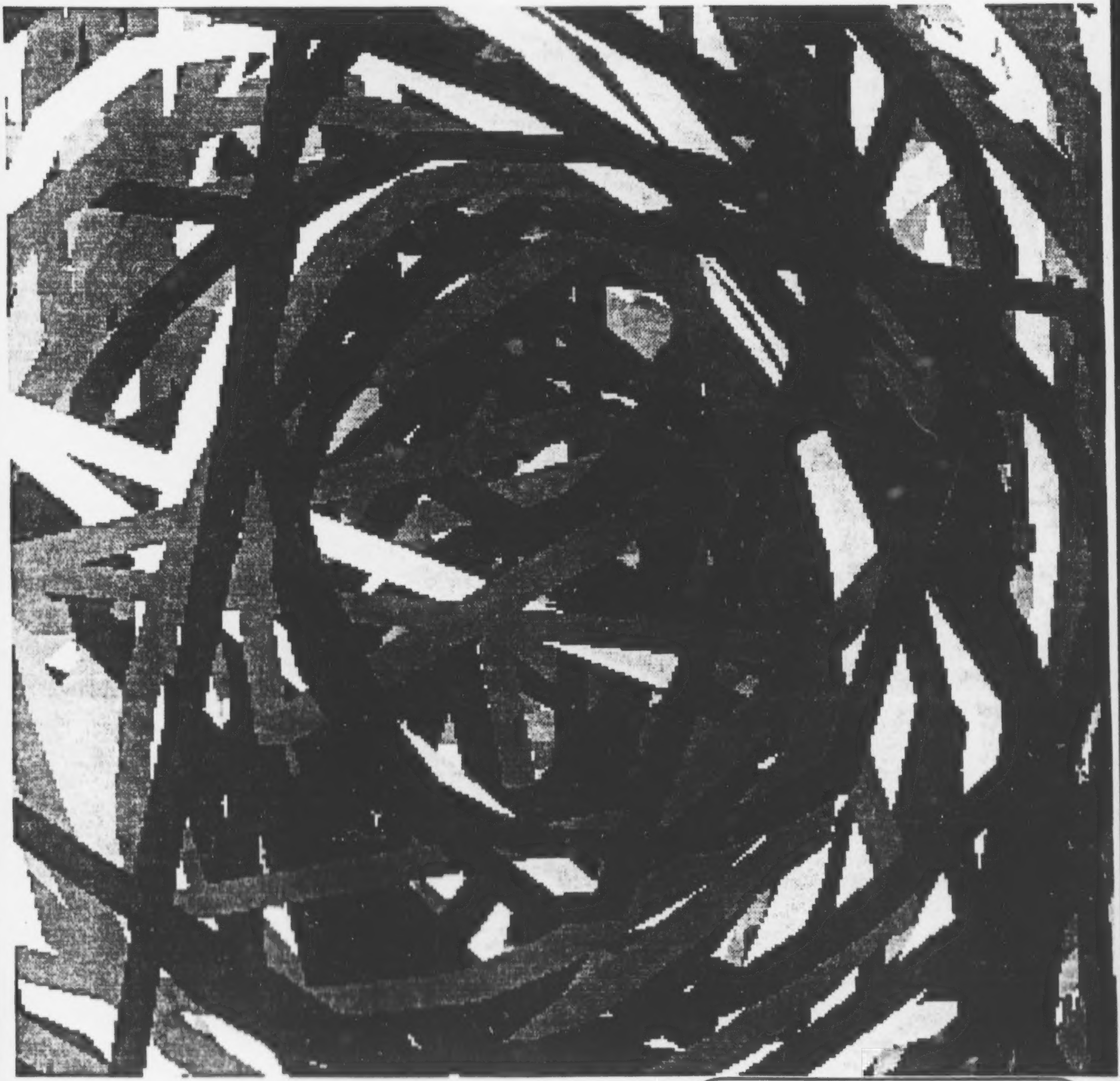
33. I can describe the management of a visual arts program in a center-based program.
1 2 3 4 5

34. I use computer technology for drawing to assist children with disabling conditions.
1 2 3 4 5

35. I set up the computer in an appropriate environment.
1 2 3 4 5

36. I attach necessary peripherals for visual art activities.
1 2 3 4 5

37. I select appropriate software and peripherals for the child's developmental level and disability.
1 2 3 4 5



Chapter Twelve
Resources

Resources

This chapter is divided into two sections. The first section contains Expressive Arts Resources and the second section contains Technology Resources. Expressive Arts Resources include: Expressive Arts Supply Catalogs, Expressive Arts Adaptive Tool Catalogs, Visual Art Materials, Expressive Arts Training Resources, Visual Art Reproduction Resources, Music and Movement Resources, and Children's Books. Technology Resources include: Considerations for Purchasing a Computer System, Technology Training Resources, Expressive Arts Software Programs, and Peripherals for Expressive Art Software Programs.

Expressive Arts Resources

Expressive Art Supply Catalogs

ABC School Supply Inc.
6500 Peachtree Industrial Blvd.
PO Box 4750
Norcross, GA 30091
(404) 447-5000

Beckley-Cardy
7111 Perimeter Park Drive
Houston, TX 77041
(800) 231-4620
Fax: (800) 237-4098
http://www.WorldWideMedia.com/

Childcraft Education Corp.
20 Kilmore Road
Edison, NJ 08817
(800) 631-5657

Community Playthings
Route 213
Rifton, NY 12471
(914) 658-8789
Fax: (914) 658-8065

Constructive Playthings
Main Business Office
1227 East 119th St.
Grandview, MO 64030
(800) 255-6124
Fax: (816) 761-9295
Email: ustoy@ustoyco.com
http://www.ustoyco.com

Creative Educational Surplus
1000 Apollo Road
Egan, MN 55121
(800) 886-6428
FAX: (800) 681-2245
http:www.creativesurplus.com

Crystal Productions
1812 Johns Drive
PO Box 2159
Glenview, IL 60025-6159
(800) 255-8629
Fax: (800) 657-8149

Educational Teaching Aids
159 West Kinzie Street
Chicago, IL 60610

Fisher-Price Toys
636 Girard Ave
East Aurora, NY 14052
(716) 687-3000
Fax: (716) 687-3560

Hammett
Box 545, Dept. DM
Braintree, MA 02184
(800) 333-4600
Fax: (800) 873-5700
http://www.hammett.com

Kaplan
PO Box 25408
Winston-Salem, NC 27114
(800) 334-2014
Fax: (800) 452-7526

Lakeshore Learning Materials
2695 E. Dominguez St.
PO Box 6261
Carson, CA 90749
(800) 421-5354
Fax: (310) 537-5403

Nasco Arts & Crafts
901 Janesville Ave.
Fort Atkinson, WI 53538
(800) 558-9595

Playskool, Inc.
4501 West Augusta Blvd.
Chicago, IL 60651
(800) 752-9755

S & S Arts and Crafts
75 Mill Street
Colchester, CT 06415
(203) 537-3451
Fax: (800) 566-6678
Email: service@snswwide.com
http://www.snswwide.com

Expressive Arts Adaptive Tool Catalogs

Access Unlimited
9039 Katy Freeway, Suite 414
Houston, TX 77024
(713) 461-0006

Adaptive Aids
PO Box 13178
Tucson, AZ 85732

Adapt Ability
PO Box 515
Colchester, CT 06415-0515
(800) 243-9232

Capable Child, Inc.
8 Herkimer Avenue
Hewlett, NY 11557

Child Craft, Inc.
PO Box 29149
Mission, KS 66201-9149
(800) 631-5657

Creative Switch Industries
5105 SW 16th St
Des Moines, IA 50315
(515) 287-5748

Crestwood Company
PO Box 04606
Milwaukee, WI 53204

Don Johnston Inc.
PO Box 639
Wauconda, IL 60084
(800) 999-4660
Fax: (847) 526-4177
E-mail: djde@aol.com

Electo-Therapy Resources
PO Box 28899
Gladstone, MO 64118
(816) 468-6030

Hartley Courseware, Inc.
133 Bridge Street
Diamondale, MI 48821
(800) 247-1380

Kaplan
PO Box 609
Lewisville, NC 27023-0609
(800) 334-2014
http://www.kaplan.com

Learn & Play
100 Corporate Drive
Mahwah, NJ 07430
(800) 247-6106

Lockfast, Inc.
10904 Deerfield Road
PO Box 42488
Cincinnati, OH 45242
(800) 543-7157

Preston Corporation
PO Box 89
Jackson, MI 49204
(800) 631-7277

Psychological Corporation
PO Box 839954
San Antonio, TX 78283-3954
(602) 323-7500

Questec
7815 Adelaida Road
Paso Robles, CA 93446
(800) 448-1184
(805) 237-6262
Fax: (805) 237-6267
http://www.questecmouse.com

S & S Arts and Crafts
PO Box 513
Colchester, CT 06415-0513
(203) 537-3451
Fax: (800) 566-6678
Email:service@snswwide.com
http://www.snswwide.com

TASH
Unit 1-91 Station Street
Ajax, Ontario, Canada LIS3H2
(800) 463-5685
Fax: (905) 686-6895
E-mail: tashcan@aol.com

Sammons
PO Box 386
Western Springs, IL 60558
(800) 323-5547

SAX
PO Box 51710
New Berlin, WI 53151
(414) 784-6880
Fax: (414) 784-1176

SouthPaw
109 Webb Street
Dayton, OH 45403-1144
(800) 228-1698

Teacher's Pet
11520 W. North Avenue
Wauwatosa, WI 53226
(414) 771-8088

Toys "R" Us Guide for
Differently-abled Kids
PO Box 8501
Nevada, IA 50201-9968
http://www.toysrus.com

Toys To Grow On
PO Box 17
Long Beach, CA 90801
(800) 542-8338

UCLA Microcomputer Project
1000 Veteran Ave, Rm. 23-10
Los Angeles, CA 90024
(310) 825-4821

Visual Art Materials

Adhesives

- Glue, glue sticks, roller glue, paste
- Cellophane tape
- Masking tape
- Clear Con-Tact paper

Blocks

- Cardboard blocks
- Large hollow blocks
- Unit blocks
- Small table blocks
- Tinkertoys
- Accessories (people, vehicles, and animals)

Paper

A wide variety of paper can be used, including:

- construction paper, drawing paper, and tissue paper; roles of newsprint, heavy paper, butcher paper, and easel paper
- Office discards, junk mail, greeting cards, magazines, and wallpaper sample books
- All paper scraps
- Paper plates (all sizes), coffee filters, and cup cake papers

Drawing tools

- Crayons without paper wrappers, a large variety of colors, and fat crayons, adaptive crayons
- Markers (that work) in many different colors
- Chalk, including fat chalks in many colors
- Fat pencils, skinny pencils, colored pencils, and charcoal pencils
- Rulers and templates
- Magna Doodle
- Grip kits

Painting Materials

- Tempera paints (liquid, cakes, powder)
- Finger paints
- Food coloring
- Dabber paints
- Roll-on paints
- Rainbow Foams
- Shaving cream (non-menthol)
- Spill-proof paint cups
- An assortment of different sized brushes with adaptive grips or extended handles
- Easels, both table top and free standing (the most versatile can be folded and easily moved to an outdoor art center)
- Grip kits

Modeling compounds

- Play dough (commercial or home-made)
- Clay
- Slime (equal parts of liquid starch and glue or equal parts of cornstarch and water)

Found Materials

- Toilet paper and paper towel rolls
- Foam or cardboard trays, fast food cartons, and egg cartons
- Sea shells, buttons, bottle caps, and macaroni
- Yarn, glitter, ribbon, fabric scraps, pipe cleaners, and feathers
- Styrofoam packing pieces, wooden spools, clothes pins, and POPSICLE or craft sticks

Set up and Clean up Materials

- Newspapers to cover tables and floor
- Smocks (a good resource for inexpensive smocks is adult shirts or blouses turned backwards)
- Small pails, mop, rags sponges, and paper towels
- Broom, dust pan, and cordless vacuum cleaner.

Other equipment

- Scissors: loop scissors, helper scissors, left-handed and right-handed scissors or scissors that work in either hand
- Staplers
- Paper punches
- Tables with space enough for several children to work together comfortably including wheelchair space

Expressive Arts Training Resources

Expressive Arts Outreach
Macomb Projects
27 Horrabin Hall
Western Illinois University
Macomb, IL 61455

(309) 298-1634
Fax: (309) 298-2305
E-mail: JD-Potter@wiu.edu
Web Site: www.mprojects.wiu.edu
www.wiu.edu/users/mimacp

Visual Art Reproduction Resources—Posters and Post Cards

Following is a partial list of visual resources available in both poster and post card sizes. These can be purchased at any art supply store or museum shop. Also search university book stores, educational supply stores, and greeting card shops. Calendars are another wonderful source of art reproductions.

Art appreciation posters. Glenview, IL: Crystal Productions.

Bridgewater Design Limited. (Ed.). (1989). *Children in art.* New York: Fawcett-Columbine.

Callaway, N. (1989). *Georgia O'Keefe: One hundred flowers.* New York: Alfred A. Knopf.

Cassatt, M. (1878). *Little girl in a blue armchair.* Washington, DC: National Gallery of Art.

Cassatt, M. (1884). *Children playing on the beach.* Washington, DC: National Gallery of Art.

Cassatt, M. (1886). *Girl in a straw hat.* Washington, DC: National Gallery of Art.

Cassatt, M. (1894). *The boating party.* Washington, DC: National Gallery of Art.

Getting to know the world's greatest artists series. (1991). Chicago, IL: Children's Press.

Langer, C. (1992). *Mother and child in art.* New York: Crescent Books.

Metropolitan Museum of Art. (Ed.). (1992). *Cats.* New York: Metropolitan Museum of Art and Crown Publishers, Inc.

Multicultural art print (series). Glenview, IL: Crystal Productions.

Raboff, E. (1988). *Art for children* (series). New York: Harper & Row.

Renoir, A. (1874). *Madame Monet and her son.* Washington, DC: National Gallery of Art.

Take five (art prints). Glenview, IL: Crystal Productions.

Music and Movement Resources—Commercial Recordings

Most of the the following recordings are available in a variety of formats, such as album, audio cassette, and compact disk. Your local music store should be able to assist you in finding the appropriate format for your needs.

Bradetich, J. (1990). *Hear we go!* Evanston, IL: Studiomedia.

Fiedler, A., Gould, M., & Munch, C. (1978). *Tchaikovsky's greatest hits, Vol. 1.* New York: RCA Records, Inc.

Gill, J. (1992). *Jim Gill sings the sneezing song and other contagious tunes.* USA: Jim Gill Music.

Gill, J. (1992). Silly dance contest. On *Jim Gill sings the sneezing song and other contagious tunes.* USA: Jim Gill Music.

Hammett, C. (1988). *Preschool action time.* Long Branch, NJ: Kimbo.

Jenkins, E. (1981). *I know the colors of the rainbow.* Freeport, NY: Educational Activities, Inc.

Jenkins, E. (1989). Did you feed my cow? On *You'll sing a song and I'll sing a song.* Washington DC: Smithsonian/Folkways Records.

Jenkins, E. (1989). *This-a-way, That-a-way.* Washington DC: Smithsonian/Folkways Records.

Jenkins, E. (1989). *You'll sing a song and I'll sing a song.* Washington DC: Smithsonian/Folkways Records.

Jenkins, E. (1990). *Ella Jenkin's nursery rhymes.* Washington DC: Smithsonian/Folkways Records.

Lewis, M., & Scelsa, G. (1991). The three little pigs blues. On *Greg and Steve playing favorites.* Cypress, CA: Youngheart Records.

Milanova, S., & Milanova, D. *Brahms sonatas for violin and piano.* USA: Monitor Recordings.

Palmer, H. (1969). The elephant. On *Learning basic skills through music, Volume I.* Freeport, NY: Activity Records, Inc.

Palmer, H. (1969). *Learning basic skills Volume I.* Freeport, NY: Educational Activities.

Palmer, H.(1972). Sammy. On *Getting to know myself.* Freeport, NY: Activity Records, Inc. Also available on videocassette.

Palmer, H. (1976). *Witches' brew.* Freeport, NY: Educational Activities, Inc.

Palmer, H. (1981). The Hammer. On *More baby songs: Songs for very young children.*

Freeport, NY: Activity Records, Inc.

Palmer, H. (1991). *Hap Palmer sings classic nursery rhymes.* Freeport, NY: Educational Activities, Inc.

Palmer, H. (1991). Walter the waltzing worm. On *Walter the waltzing worm.* Freeport, NY: Educational Activities, Inc.

Palmer, H. (1993). *Can a cherry pie wave goodbye?* Topanga, CA: Hap-Pal Music, Inc.

Prokofiev, S. *Peter and the wolf.* New York: RCA. (1994)

Raffi. (1976). *Singable songs for the very young.* Universal City, CA: Troubadour Records.

Raffi. (1982). *Rise and shine.* Hollywood, CA: A & M Records.

Raffi. (1993). *Raffi on Broadway: A family concert.* Universal City, CA: Troubadour Records.

Raffi. (1996). Shake my sillies out. On *More singable songs.* Cambridge, MA: Rounder.

Rampal, J. (1992). *The art of the flute.* Canada: Madacy Music Group Inc.

Rimsky-Korsakov. The flight of the bumblebee. On *The flight of the bumblebee.* Hollywood, CA: Angel. (1984)

Saint-Saens, C. *Carnival of animals.* Canada: Madacy Music Group, Inc. (1993)

Scelsa, G., & Millang, S. (1991). *Greg & Steve, playing favorites.* Cypress, CA: Youngheart Music, Inc.

Stewart, G. (1992). *Multicultural rhythm stick fun.* Long Branch, NJ: Kimbo.

Sousa, J. *15 greatest marches of John Philip Sousa.* USA: Total Recording of California.

Tchaikovsky, P. I. *The nutcracker, Swan Lake, the sleeping beauty.* New York: EMI Classics. (1995)

Van Cliburn. (1972). *The world's favorite piano music.* New York: RCA Records.

Vivaldi, A. The four seasons. On *Mad about Vivaldi.* Hamburg, Germany: Deutsche Grammophon. (1993)

Warren-Mattox, C. (1989). *Shake it to the one that you love the best.* El Sobrante, CA: Warren-Mattox Productions.

Children's Books

The following list contains books that focus on art in general, aesthetic elements like color, form, and line, artists, and books that support children's dramatic play.

Asbjørnsen, P. C. & Moe, J. E. (1957). *The three billy goats gruff.* New York: Harcourt, Brace and Company.

Ahlberg, J., & Ahlberg, A. (1978). *Each peach, pear, plum.* New York: Scholastic.

Aliki. (1976). *Corn is maize, the gift of the Indians.* New York: Harper Collins.

Anderson, L., & Bjõrk, C. (1993). *Linnea in Monet's Garden.* Stockholm, Sweden: Rabén & Sjögren Publishers. Also available as a videocassette New York: First Run Features.

Anello, C. (1987). *The farmyard cat.* New York: Scholastic.

Anno, M. (1984). *Anno's flea market.* New York: Philomel Books.

Baker, A. (1994). *White Rabbit's color book.* New York: Kingfisher Books.

Belloli, A., & Godard, K. (1994). *Make your own museum.* New York: Ticknow & Fields Books for Young Readers & Malibu, CA: The J. Paul Getty Museum.

Blizzard, G. (1992). *Come look with me: Animals in art.* Charlottesville, VA: Thomasson-Grant, Inc.

Blizzard, G. (1992). *Come look with me: Exploring landscape art with children.* Charlotttesville, VA: Thomasson-Grant, Inc.

Brett, J. (1990). *The mitten.* New York: Scholastic.

Brett, J. (1996). *Goldilocks and the three bears.* New York: Putnam's.

Brown, M. W. (1972). *The pokey little puppy.* New York: Scholastic.

Brown, M. W. (1989). *Baby animals.* New York: Random House.

Brown, M. W. (1989). *Big red barn.* New York: Scholastic.

Carle, E. (1995). *I see a song.* NY: Scholastic.

Carle, E. (1989). *The very hungry caterpillar.* New York: Philomel.

Cohen, C. (1988). *The mud pony.* New York: Scholastic.

dePaola, T. (1989). *The art lesson.* New York: G. P. Putnam's Sons.

Dubanevich, A. (1983). *Pigs in hiding.* New York: Scholastic.

Ehlert, L. (1991). *Red leaf, yellow leaf.* San Diego, CA: Harcourt Brace Jovanovich.

Ets, M. (1983). *Just me.* New York: Puffin Books.

Florian, D. (1991). *A potter.* New York: Greenwillow Books.

Franco, B. (1994). *Fresh fall leaves.* New York: Scholastic.

Galdone, P. (1973). *The little red hen.* New York: Seabury Press.

Gauch, P. (1980). *Christina Katerina & the box.* New York: Coward-McCann, Inc.

Grossman, B. (1989). *Tommy at the grocery store.* New York: Harper & Row.

Heller, R. (1995). *Color.* New York: Putnam & Grosset.

Hewavisenti, L. (1991). *Shapes and solids.* New York: Aladdin Books.

Hubbard, P. (1996). *My crayons talk.* New York: Henry Holt and Company, Inc.

Hull, J. (1989). *Clay.* New York: Franklin Watts.

Hutchins, P. (1968). *Rosie's walk.* New York: Macmillan.

Jeffers, S. (1974). *All the pretty horses.* New York: Scholastic.

Johnson, C. (1955). *Harold and the purple crayon.* New York: Harper & Row. Also available on videotape. Weston CT: Children's Circle. (1993)

Jonas, A. (1993). *Color dance.* New York: Greenwillow Books.

Kohl, M., & Gainer, C. (1996). *Math arts: Exploring math through art for 3 to 6 year olds.* Beltsville, MD: Gryphon House.

Krauss, R. (1945). *The carrot seed.* New York: Scholastic.

Lester, A. (1989). *Imagine.* New York: Houghton Mifflin Company.

Le Tord, B. (1995). *A blue butterfly: A story about Claude Monet.* New York: Doubleday.

Lionni, L. (1975). *A color of his own.* New York: Scholastic.

Lionni, L. (1989). *Swimmy.* New York: Scholastic.

Lionni, L. (1995). *Little blue and little yellow.* New York: Mulberry Books.

Lobel, A., & Lobel, A. (1981). *On Market Street.* New York: Mulberry Books.

Martin, B. (1986). *Barn dance.* New York: The Trumpet Club.

Mayer, M. (1968). *There's a nightmare in my closet.* New York: Dial Books.

Micklethwait, L. (1992). *I spy two eyes: Numbers in art.* New York: Greenwillow Books.

Micklethwait, L. (1993). *A child's book of art.* New York: Dorling Kindersley.

Micklethwait, L. (1994). *I spy a lion: Animals in art.* New York: Greenwillow Books.

Moss, S. (1995). *Peter's painting.* New York: Mondo Publishing.

Mühlberger, R. (1993). *What makes a Bruegel a Bruegel?* New York: The Metropolitan Museum of Art.

Mühlberger, R. (1993). *What makes a Degas a Degas?* New York: The Metropolitan Museum of Art.

Mühlberger, R. (1993). *What makes a Monet a Monet?* New York: The Metropolitan Museum of Art.

Mühlberger, R. (1993). *What makes a Rembrandt a Rembrandt?* New York: The Metropolitan Museum of Art.

Mühlberger, R. (1993). *What makes a van Gogh a van Gogh?* New York: The Metropolitan Museum of Art.

Pacovská, K. (1995). *Flying.* New York: North-South Books.

Oxenbury, H. (1990). *Tom and Pippo go shopping.* New York: Aladdin Books.

Parkes, B., & Smith J. (1985). *The three little pigs.* Crystal Lake, IL: Rigby.

Percy, G. (1993). *The tortoise and the hare.* New York: Henry Holt.

Rae, M. (1988). *The farmer in the dell.* New York: Scholastic.

Rockwell, A., & Rockwell, H. (1979). *The supermarket.* New York: Macmillan.

Röttger, E., & Klante, D. (1963). *Creative drawing: point and line.* New York: Van Nostrand Reinhold Co.

Russo, M. (1992). *The line up book.* New York: Puffin Books.

Rylant, C. (1986). *Night in the country.* New York: Bradbury Press.

Schwartz, A. (1993). *Portraits.* New York: Scholastic.

Sendak, M. (1963). *Where the wild things are.* New York: Harper & Row.

Seymour, R. (1994). *The National Gallery ABC.* New York: Universe Publishing.

Shaw, C. (1989). *It looked like spilt milk.* New York: Scholastic.

Slobodkina, E. (1968). *Caps for sale.* Reading, MA: Young Scott Books.

Székessy, T. (1996). *A princess in boxland.* New York: North-South Books.

Terzian, A. (1993). *The kids multicultural art book: Art and craft experiences from around the world.* Charlotte, VT: Williamson Publishing Co.

Voss, G. (1993). *Museum numbers.* Boston, MA: Museum of Fine Arts.

Waters, E., & Harris, A. (1993). *Painting, a young artist's guide.* New York: Dorling Kindersley.

Wolf, A. (1984). *Mommy, it's a Renoir!* Altoona, PA: Parent-child Press.

Yamaka, S. (1995). *The gift of Driscoll Lipscomb.* New York: Simon & Schuester.

Yenawin, P. (1991). *Lines.* New York: Delacorte Press.

Technology Resources

Considerations for Purchasing A Computer System

Power PC Chip
This provides the capability of using Macintosh or IBM software. Special software is needed to use IBM software on a Macintosh, but at least the capability is there when needed.

RAM
Many systems come with 16 MB which may be sufficient for opening programs, simple word processing functions, printing, and using speech functions; however, 32 MB will ensure enough working memory for software on CD-ROM and Internet functions. More RAM can be added if needed.

Hard Drive Space
At least 1 GB is recommended. Many systems now come with 1.2 GB as standard, some even have 2-3 GB. The more hard drive space you have the more programs you can install, and the more art products or word processing documents you can save.

Internal CD-ROM Drive
This drive is essential. Most software is now available in CD format.

Monitor Size
15" to 17" Color Monitor which is separate from your CPU is recommended. Monitors which are built into the rest of the computer system are not adjustable. This may cause problems in lowering the monitor to a comfortable eye level for children.

Other Equipment
A microphone is recommended to record voices for use in some software programs and to further stimulate communication skills.
Color Printer—Apple Color StyleWriter 2500 or Hewlett Packard DeskWriter 680C or DeskJet 870Cse (These models can be purchased at large discount stores or computer stores.)
Quick Cam or Color Quick Cam (Connectix)
Digital Camera—Apple QuickTake 200, Olympus D-200L, or Kodak Digital Science DC50
Scanner—AGFA StudioScan IIsi, UMAX Vista S6, or Tamarack Telecom Inc. ArtiScan.

Peripherals
- Ke:nx or Discover:Kenx (Don Johnston) adaptive interface and software (allows switch and alternate keyboard use)
- Key Largo (Don Johnston)
- IntelliKeys (IntelliTools)
- Multiple Switch Box (Don Johnston)
- Discover:Switch (Don Johnston)
- TouchWindow (EDMARK)
- Switches—homemade or commercial (AbleNet, Don Johnston, Inc., or other companies)

Technology Training Resources

Activating Children Through Technology
(ACTT)
Macomb Projects
27 Horrabin Hall
Western Illinois University
Macomb, IL 61455

(309) 298-1634
Fax: (309) 298-2305
E-mail: L-Robinson@wiu.edu
Web Site: www.mprojects. wiu.edu
www.wiu.edu/users/mimacp

Adaptive Device Resources

Big Red Switch
AbleNet, Inc.
1081 Tenth Avenue S. E.
Minneapolis, MN 55414-1312
(800) 322-0956
Fax: (612) 379-9143
Web Site: http://www.ablenetinc.com

Discover:Switch
Don Johnston Inc.
1000 N. Rand Rd., Bldg. 115
PO Box 639
Wauconda, IL 60084-0639
(800) 999-4660
Fax: (847) 526-4177
E-mail:djde@aol.com

Computer Crayon
Questec
7815 Adelaida Road
Paso Robles, CA 93446
(800) 448-1184
(805) 237-6262
Fax: (805) 237-6267
http://www.questecmouse.com

IntelliKeys
IntelliTools, Inc.
55 Leveroni Court Suite 9
Novato, CA 94949
(800) 899-6687
FAX: (415) 382-5950
E-mail: info@intellitools.com

Ke:nx or *Discover:Kenx*
Don Johnston Inc.
1000 N. Rand Rd., Bldg. 115
PO Box 639
Wauconda, IL 60084-0639
(800) 999-4660
Fax: (847) 526-4177
E-mail:djde@aol.com

TalkPad
Frame Technologies
W681 Pearl St
Oneida, WI 54155
Voice/Fax: (414) 869-2979
Email: cframe@netnet.net

Key Largo
Don Johnston Inc.
1000 N. Rand Rd., Bldg. 115
PO Box 639
Wauconda, IL 60084-0639
(800) 999-4660
Fax: (847) 526-4177
E-mail:djde@aol.com

kidDraw
kidBoard
6545 France Avenue South, Suite 376
Edina, MN 55435
(612) 926-7995
(800) 926-3066
Fax: (612) 926-7885
Web Site: http://www.kidboard.com

Switch Interface for the Mac
Don Johnston Inc.
1000 N. Rand Rd., Bldg. 115
PO Box 639
Wauconda, IL 60084-0639
(800) 999-4660
Fax: (847) 526-4177
E-mail:djde@aol.com

TouchWindow
EDMARK Corporation
PO Box 3903
Bellevue, WA 98009-3903
(800) 426-0856
Fax: (206) 556-8430
E-mail: edmarknews@edmark.com
Web Site: http://www.edmark.com

Trackerball (Penny & Giles)
Don Johnston Inc.
1000 N. Rand Rd., Bldg. 115
PO Box 639
Wauconda, IL 60084-0639
(800) 999-4660
Fax: (847) 526-4177
E-mail:djde@aol.com

Ultimate Switch
Toys For Special Children, Inc.
385 Warburton Ave.
Hastings on Hudson, NY 10706
(914) 478-0960

Peripheral Device Resources

AbleNet
1081 Tenth Avenue S. E.
Minneapolis, MN 55414-1312
(800) 322-0956
Fax: (612) 379-9143
Web Site: http://www.ablenetinc.com

Computability Corp.
4000 Grand River Suite 109
Novi, MN 48040
(313) 477-6720

Creative Switch Industries
5105 SW 16th St
Des Moines, IA 50315
(515) 287-5748
(800) 257-4385

Dunamis, Inc.
3423 Fowler Blvd.
Lawrenceville, GA 30244
(800) 828-2443
(707) 279-1144 (GA)
Fax: (770) 279-0809

Educational Resources
1550 Executive Drive
Elgin, IL 60123-9330
(800) 624-2926
Fax: (708) 888-8499
Web Site: www.edresources.com

Electronic Technology, Inc.
9333 Penn Avenue South
Bloomington, MN 55431
(800) 248-9392

HACH
PO Box 11754
Winston-Salem, NC 27116
(800) 410-7282
Web Site: http://www.hach.com

IntelliTools, Inc.
55 Leveroni Court Suite 9
Novato, CA 94949
(800) 899-6687
Fax: (415) 382-5950
E-mail: info@intellitools.com

Apple Computer, Inc.
World Wide Disabilities Solutions
1 Infinite Loop
Cupertino, CA 95014
(800) 600-7808
Apple Fax: (800) 462-4396
http://www2.apple.com/disability/message.html

Computerware
605 W. California Avenue
Sunnyvale, CA 94086-5020
(800) 341-8889

Don Johnston Inc.
1000 N. Rand Rd., Bldg. 115
PO Box 639
Wauconda, IL 60084-0639
(800) 999-4660
Fax: (847) 526-4177
E-mail:djde@aol.com

EDMARK
PO Box 97021
Redmond, WA 98073-9721
(800) 362-2890
Fax: (206) 556-8430
E-mail: edmarknews@edmark.com
Web Site: http://www.edmark.com

The Edutainment Catalog
PO Box 21210
Boulder, CO 80308
(800) 338-3844
Fax: (800) 226-1942
Web Site: www.edutainco.com

IBM Special Needs Systems
1000 Yamato Road
Internal Zip 5432
Boca Raton, FL 33431

Innovative Computer Applications
26210 Emery Road Suite 302
Warrensville Heights, OH 44128
(800) 383-8622
Fax: (216) 464-3638

RJ Cooper & Associates
24843 Del Prado #283
Dana Point, CA 92629
(800) RJCOOPER or (714)240-9785
E-mail: rjcoop@aol.com

TASH
Unit 1-91 Station Street
Ajax, Ontario, Canada LIS 3H2
(800) 463-5685
FAX: (905) 686-6895
E-mail: tashcan@aol.com

ZYGO Industries, Inc.
PO Box 1008
Portland, OR 97202-1008
(800) 234-6006
FAX: (503) 684-6011

Expressive Arts Software Programs

All programs can be used with the mouse or TouchWindow and can be adapted for switch or expanded keyboard use through Ke:nx, Discover:Kenx, or IntelliKeys. Programs indicated as switch input can be used with a switch interface alone or with the stitch input in Ke:nx or IntelliKeys.

ArtSpace and *A Curriculum to Accompany ArtSpace*
Macomb Projects
Ages 3-8
Switch input

A Silly Noisy House
Voyager
Ages 2-5

BabySmash
Shareware
Ages 2-4
Keyboard

Blocks in Motion
Don Johnston Inc.
Ages 3-8
Switch input

Chicka Chicka Boom Boom
Davidson & Associates; Simon & Schuster
Ages 3-6

Circletime Tales Deluxe
Don Johnston Inc.
Ages 2-6
Switch input

Crayola Art Studio
Micrografx
Ages 3-12

Cyberboogie!
Times Mirror Multimedia Corp.
Ages 3-8

*EA*Kids Art Center*
EA*Kids, Electronic Arts
Ages 3-Adult

Easy Overlays
Don Johnston Inc.
Ages 2-13

Gryphon Bricks
Gryphon Software Corporation
Ages 5+

Eensy & Friends
Don Johnston Inc.
Ages 2-6
Switch input

Gus and the Cyberbuds, Sing, Play, and Paint-a-Long
Blasterware
Ages 4+

Harry and the Haunted House
Brøderbund
Ages 3-8

Hello Kitty, Big Fun Deluxe
Big Top, The Learning Circus
Ages 3-8

HyperKeys
Public Domain
Ages 2-8

HyperStudio 3.0
Roger Wagner
Ages 3-Adult

Just Grandma and Me
Brøderbund
Ages 3-8

Kap'n Karaoke
WordPerfect Corporation
Ages 3+

KeyWack
Public Domain
Ages 2-4

Kid Cuts
Brøderbund
Ages 2-Adult

Kid Pix
Brøderbund
Ages 2-Adultt

Kid Pix Studio
Brøderbund
Ages 2-Adult

Kid Pix 2
Brøderbund
Ages 2-Adult

Kid Works Deluxe
Davidson & Associates
Ages 4+

Kids World/Underware
Bit Jugglers
All ages

Making Music
Voyager
Ages 3+

Lamb Chop Loves Music
Media Station/Phillips Media, Inc.
Ages 3+

look what i see
Metropolitan Museum of Art
Mitsubishi Chemical of America
Muriel Silbertein-Storfer
Ages 3+

McGee
McGee at the Fun Fair
McGee Visits Katie's Farm
Lawrence Productions
Ages 2-8

Millie's Math House
EDMARK
Ages 3-8
Switch

New Frog & Fly
Simtech Publications
Ages 2-8
Switch input

Peter and the Wolf
Time Warner Interactive
Ages 3+

Pippi Longstocking
Ahead Media AB (Don Johnston Inc.)
Ages 3-8
Switch input

Richard Scarry's Busytown
Novotrade International
Paramount Interactive
Ages 3-8

Simple Drawing
Macomb Projects
All ages

Storytime Tales
Don Johnston Inc.
Ages 3-8
Switch input

Stradiwackius, The Counting Concert
Vroom Books, T/Maker
Ages 3-8

Switch Intro
JOKUS (Don Johnston Inc.)
Ages 2-8
Switch input

The Amazing Writing Machine
Brøderbund
Ages 4-12

The Backyard
Brøderbund
Ages 3-6

The Louvre Museum
Voyager
Ages 4-10

The Print Shop Deluxe
Brøderbund
Ages 4-Adult

Thinkin' Things
EDMARK
Ages 3-8
Switch input

With Open Eyes
The Art Institute of Chicago
Ages 3+

Other programs:
KidDesk Family Edition (EDMARK)

ClarisWorks 4.0 - word processing, database, spreadsheet (Claris Corporation)

Flash-it (Shareware)

Software Resources

Broderbund Software
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(800) 521-6263
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(800) 828-2443
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Web site: http://www.mprojects.wiu.edu

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Why Should Young Children Spend Time Drawing and Painting
Patricia Hutinger, Char Ward, & Letha Clark
December 4, 1990

Crazy Shoes & Circus Feats
Jim Gill
September 16, 1992

The Arts in Early Childhood: A Springboard for Learning
Patricia Hutinger, Amy Betz, & Judy Potter
March 15, 1995

Technology

There's a Mouse in My Classroom
Letha Clark, Karen Baird, & Carol Bell
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Can We Transform Early Childhood Education through Technology?
Patricia Hutinger & Robert Stoneburner
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Reggio Emilia

Early Learning in Reggio Emilia, Italy
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Lella Gandini
September 21, 1994

Assessment

Observation of Children
Dan Detwiler
October 23, 1991

Authentic Assessment
Judy Helm
October 18, 1995

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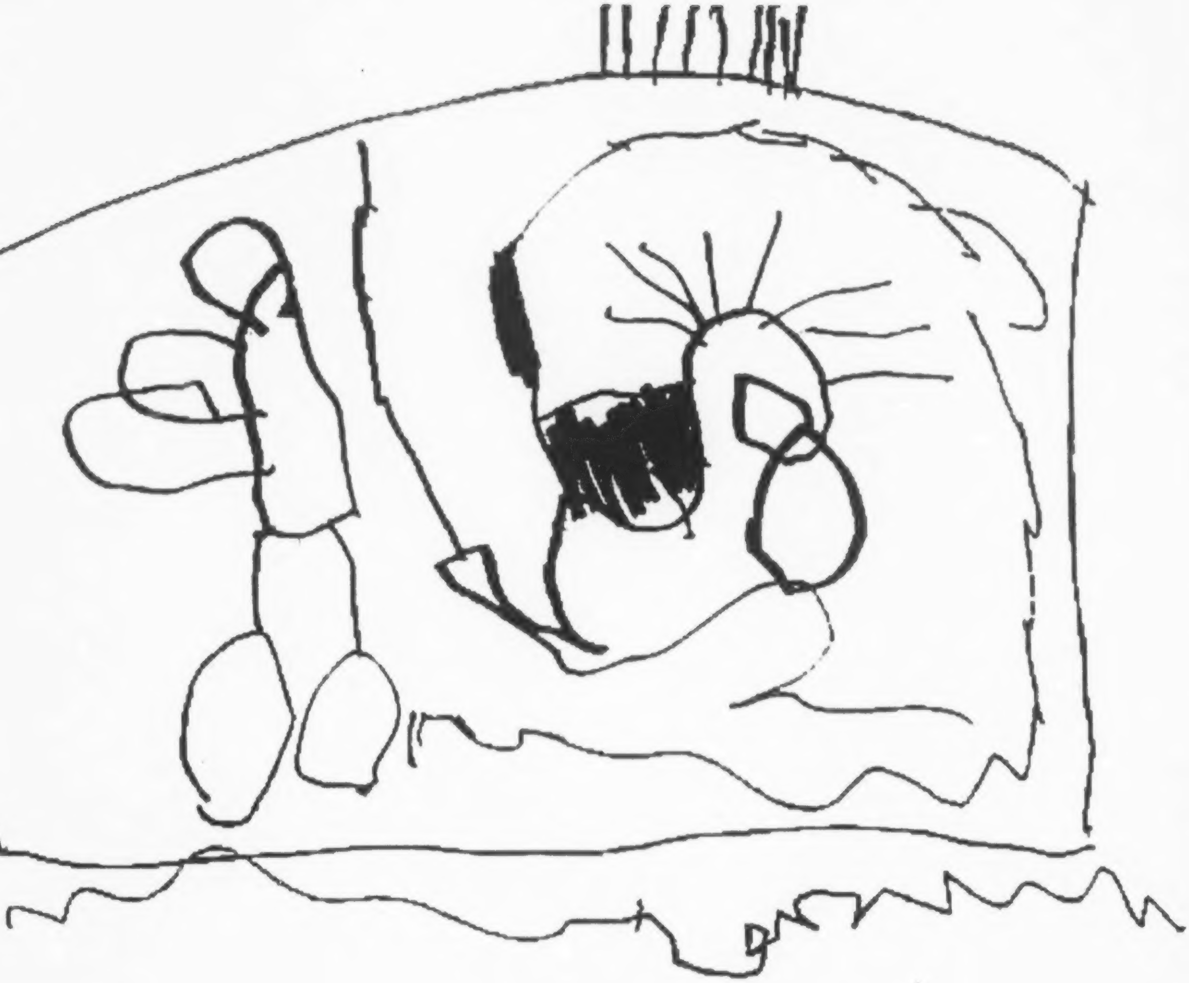


Appendices

Glossary

aggregate - an image made of three or more diagrams

associative play - two or more children involved in a similar dramatic play theme; children are aware of each other's presence and may interact occasionally.

beat - a steady pattern of equal duration found in music

brayer - a roller used in printmaking

bristle blocks - small plastic blocks consisting of bristles to provide the interlocking capability

child-centered - activities or philosophy that take into account the child's interests, experiences, and abilities

child-directed activities - activities that occur due to a child's interest or inquiry

child-initiated activities - activities that the child starts or suggests

combine - an image made of two diagrams

complementary colors - colors that are most like one another or are near one another on the color wheel, such as red, orange, and yellow. Complementary colors do not turn dull when mixed.

contrasting colors - opposite colors on a color wheel, such as red/green, orange/blue, or yellow/purple. When placed side by side, these colors produce almost a vibrating effect; but when mixed together, these colors create a dull, neutral color.

cool colors - green, blue, and purple

cooperative play - two or more children engaged in role playing with social interaction

Cray-Pas - oil pastels

dabber paints - tempera paint in bottles with sponge-tipped applicators

dark colors - colors with dense pigment, such as black, brown, purple, and blue.

developmentally appropriate activities - activities that take into account the child's individual learning style, personality, and family background as well as the age of the child

diagram - six distinct forms found in children's drawings: rectangle, triangle, oval Greek cross, diagonal cross, and the odd shape

docent - a person who conducts groups through a museum or art gallery.

dynamics - the intensity of the volume in a music (loud/soft)

emergent diagram shapes - Kellogg identified 17 of these shapes which precede the drawing of diagrams; some suggest crossing lines; others imply other shapes

expressive arts - visual arts, music, movement, and drama

intensity - describes a color value, for example pure red is vibrant and at full intensity; while mixing red with green dulls red's intensity.

kiosk - a small light structure with three sides used for displaying art work

learning cycle - the process of constructing knowledge and acquiring new knowledge; the cycle is made up of awareness, exploration, inquiry, and utilization

light colors - colors with less dense pigment, such as red, yellow, orange, green.

mandala - a line formation generally consisting of a circle with a cross; concentric circles and squares are also considered to be mandalas

messy tray - an easy-to-clean tray with sides to help keep in materials such as finger paint, dirt, sand, or mud

Music Mat - a switch-activated mat connected to a keyboard designed to make music

observational learning - the discover of how a process works by observing instead of actively participating

on-looker play - a child watching other children play

open-ended - an activity or material that can be used in a variety of ways; there is no prescribed action or outcome

parallel play - two children play and are aware of each other, but do not interact

pastels - oil-based chalks

pitch - the highness of lowness of a sound

primary colors - colors that cannot be made by mixing other colors: red, yellow, and blue.

rebus chart - words are represented by pictures

representational drawing - an image that symbolizes something to the child; it may not look like that symbol to an adult

rhythm - the uneven patterns of notes, divided beats, and rests that are created by the words or melodies of a song

scribbles - marks made by younger children; Kellogg identified twenty

secondary colors - colors between the primary colors on the color wheel: orange, green, and purple.

sequencing - the putting of objects, materials, or actions in a progressive or specific order

shade - black is added to any color to change it's value.

solitary play - a child plays alone

tempo - the rate of speed of a musical piece (fast/slow)

timbre - the quality of a tone

tint - mixing white with any color to create a lighter variation of the color.

value - the lightness or darkness of a color's intensity. The highest or lightest value would be pure white. The lowest or darkest value would be pure black.

warm colors - red, yellow, and orange

Make Your Own Music Mat

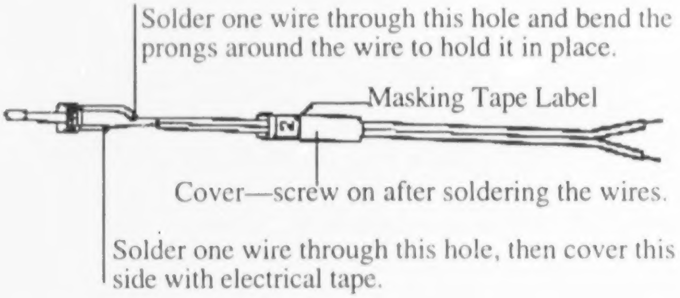
The Music mat can be constructed using the materials and tools included in the Music Mat Construction Kit (Model 122) (The 1993 price was $129.95 + S/H), or from materials and tools purchased individually in local retail stores.

The Music Mat consists of twenty switches: 11 switches for white piano keys, 7 switches for black piano keys, and 2 switches for rhythm keys.

The Music Mat Notebook Switch
This is a very flat switch that can be activated by light pressure on most of the surface. When pressure is released, the switch turns off. This switch can be placed under a mat and it will turn on when that area of the mat is stepped on, rolled on, or pressed.

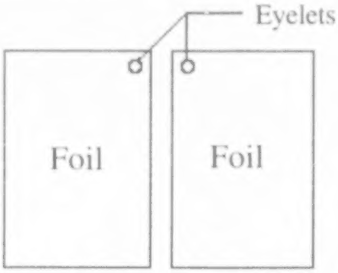
Materials Needed for Twenty Notebook Switches:
19 laminated legal size file folders or 40 pieces of cardboard
13 disposable foil oven liners
20 miniature phone plugs (Radio Shack Cat. No. 274-286)
100 ft. of two conductor, 22 gauge, stranded wire (speaker wire)
3 rolls of double-sided carpet tape
1 roll of masking tape
1 roll of electrical tape
2 ft. of 1/2" thick foam rubber
Wire stripper
Hot glue gun and glue sticks
Soldering iron and rosin core solder
Eyelet tool and eyelets
Plastic scraper

Construction:
- Cut the laminated file folders into two pieces of the proper size for each switch (22 pieces @ 15" x 6" for white piano keys, 14 pieces @ 15" x 4" for black piano keys, 4 pieces @ 9" x 9" for rhythm switches).
- Cut the edges off of the foil oven liners so that you have 13 flat sheets of foil. Smooth out the wrinkles or ridges on the foil sheets with a plastic scraper (or the bowl of a spoon).
- Cut the foil sheets into two pieces of the proper size for each switch (22 pieces @ 14.5" x 5.5" for white piano keys, 14 pieces @ 14.5" x 3.5" for black piano keys, 4 pieces @ 8.5" x 8.5" for rhythm switches).
- Cut 20 pieces of speaker wire into the following lengths: 3 pieces @ 7 ft., 3 pieces @ 6 ft., 7 pieces @ 5 ft., 3 pieces @ 4 ft., 2 pieces @ 3 ft., and 2 pieces @ 2 ft.
- Split and strip both ends of each piece of speaker wire. Solder a miniature phone plug to one end of each of the 20 pieces of wire.

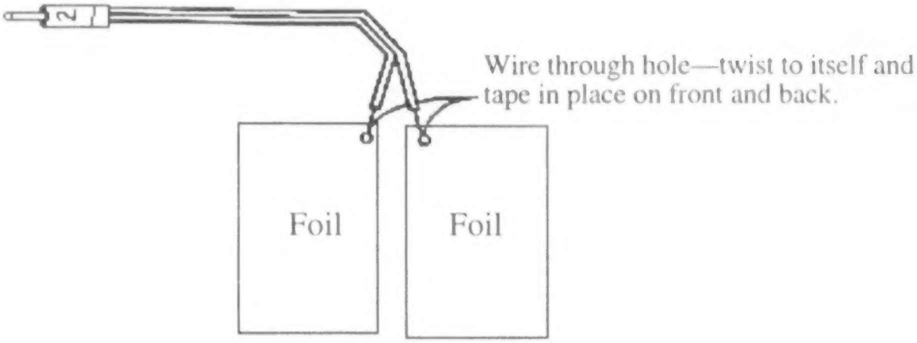

Solder one wire through this hole and bend the prongs around the wire to hold it in place.
Masking Tape Label
Cover—screw on after soldering the wires.
Solder one wire through this hole, then cover this side with electrical tape.

The Music Mat was developed by Becky Atwood, FDLRS/TECH

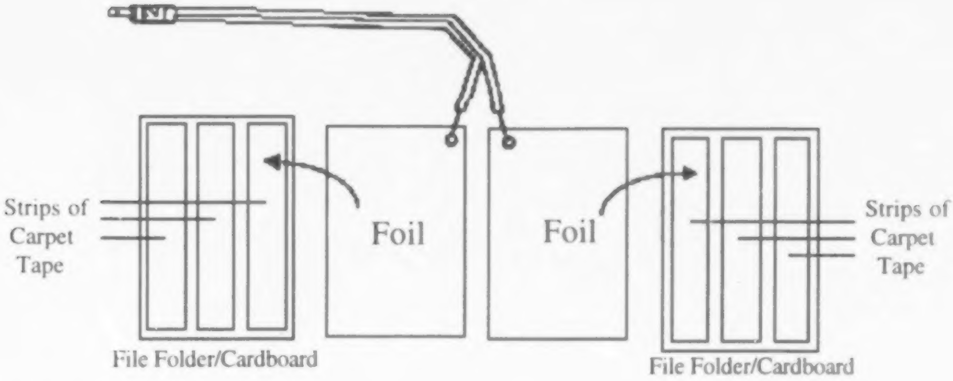
- With a small piece of masking tape label the phone plugs as follows:
  7 ft. pieces = # 1, 10, 11
  6 ft. pieces = # 2, 9, 12
  5 ft. pieces = # 3, 4, 5, 7, 8, 13, 18
  4 ft. pieces = # 6, 14, 17
  3 ft. pieces = # 15, 16
  2 ft. pieces = Rhythm Select, Rhythm Stop
- With the eyelet tool, punch a hole about 1/4" from the corner of each sheet of foil. Squeeze an eyelet in place in each hole. Use opposite edges of the two pieces of foil.



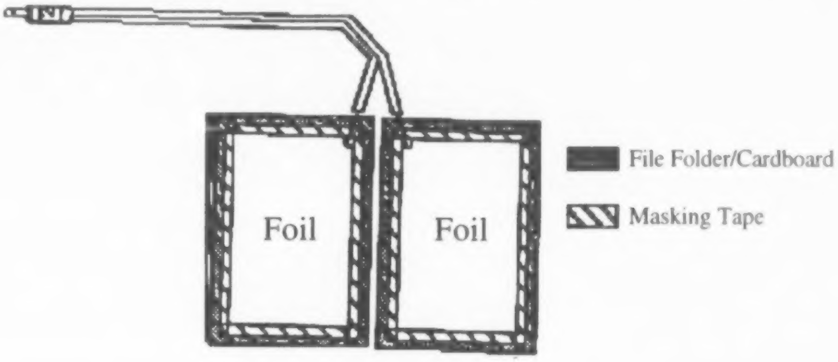
- Separate the folder/cardboard pieces, foil pieces and speaker wire/phone plug pieces into the following groups:
  White Keys—22 file folder pieces @ 15"x 6", 22 foil pieces @ 14.5"x 5.5", and phone plugs # 1-11
  Black Keys—14 file folder pieces @ 15"x 4", 14 foil pieces @ 14.5"x 3.5", and phone plugs # 12-18
  Rhythm Keys—4 file folder pieces @ 9"x 9", 4 foil pieces @ 8.5"x 8.5", and phone plugs Rhythm Select and Rhythm Stop
- Using the materials in the **White Keys** group, thread one piece of stripped wire through each eyelet. Fold the wire back and twist it firmly to itself. With a small piece of masking tape, tape this wire firmly in place on front and back of the foil. Rub your thumbnail over the tape to insure a good electrical connection between the wire and foil sheet.


2
Wire through hole—twist to itself and tape in place on front and back.
Foil
Foil

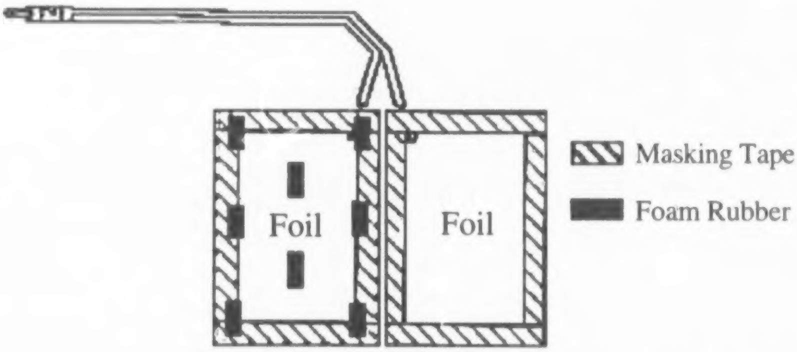
- Repeat above step with the materials in the **Black Keys** group and the **Rhythm Keys** group.
- Tape one surface of each laminated file folder with strips of carpet tape.
- Remove the protective paper on the surface of the carpet tape and press one sheet of foil onto each folder/cardboard piece. (Be sure to attach the foil piece to a folder/cardboard from the same Key group.)


Strips of Carpet Tape
Foil
Foil
Strips of Carpet Tape
File Folder/Cardboard
File Folder/Cardboard

- Use masking tape to cover all the raw edges of the foil sheet by about 1/8" - 1/4" and fold the extra tape around the back of the file folder/cardboard.


Foil
Foil
▬ File Folder/Cardboard
▨ Masking Tape

- Cut strips of foam rubber about 3/4" wide and 2" long. Place these strips on the foil as shown in the diagram below. The size of the strips, and their placement will depend on the overall size of the switch.

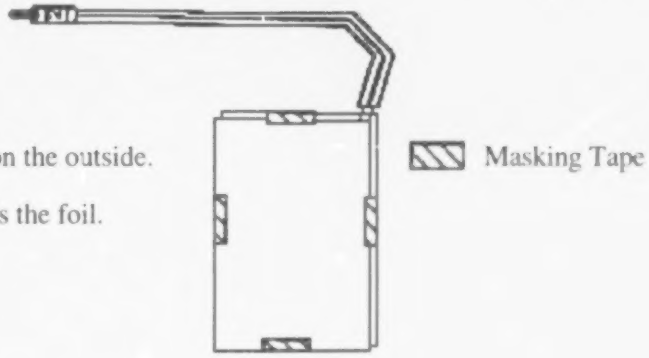

Foil
Foil
▨ Masking Tape
▬ Foam Rubber

- Place the covers together so that the foil sides face each other and the foam rubber is separating the foil. Experiment to see how easily the switch can be turned on and to make sure that it springs apart after pressure is released. If it is too difficult to press, use smaller pieces of foam.

If it doesn't turn off readily, use bigger pieces of foam.

- When you have just the right amount of foam, use hot glue to attach the pieces of foam to the foil. Then use small pieces of masking tape to **lightly** secure the four sides of the switch (if this tape is too tight, it may turn the switch on).

Folder/Cardboard is on the outside.
Foil is on the inside.
Foam rubber separates the foil.



Constructing the Music Mat

Materials Needed for constructing the Music Mat

- 2 flannel-backed vinyl tablecloths (52"x 90")
    - 1 for Music Mat
    - 1 for Switch Pockets
- 1 roll black duct tape (2"x 10 yd.)
- 1 roll electrical tape
- 3 rolls 2-sided carpet tape (1 1/2"x 42 ft.)
- 1 tube Liquid Nails adhesive
- Dressmaker's tracing wheel and tracing paper

Now You are Ready to Construct the Music Mat!

1. Lay out the tablecloth to be used as the Music Mat, *Vinyl Side Up*, on a hard, flat surface.

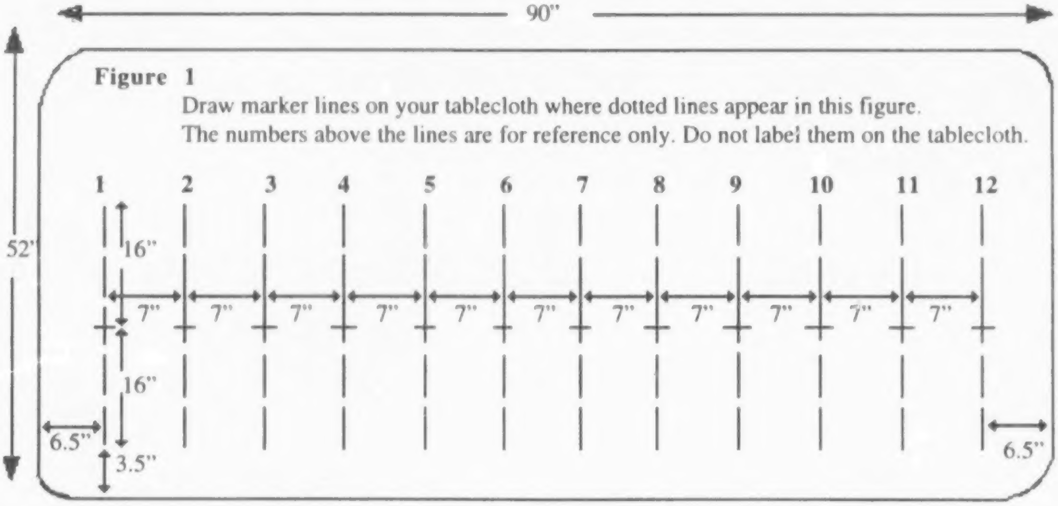
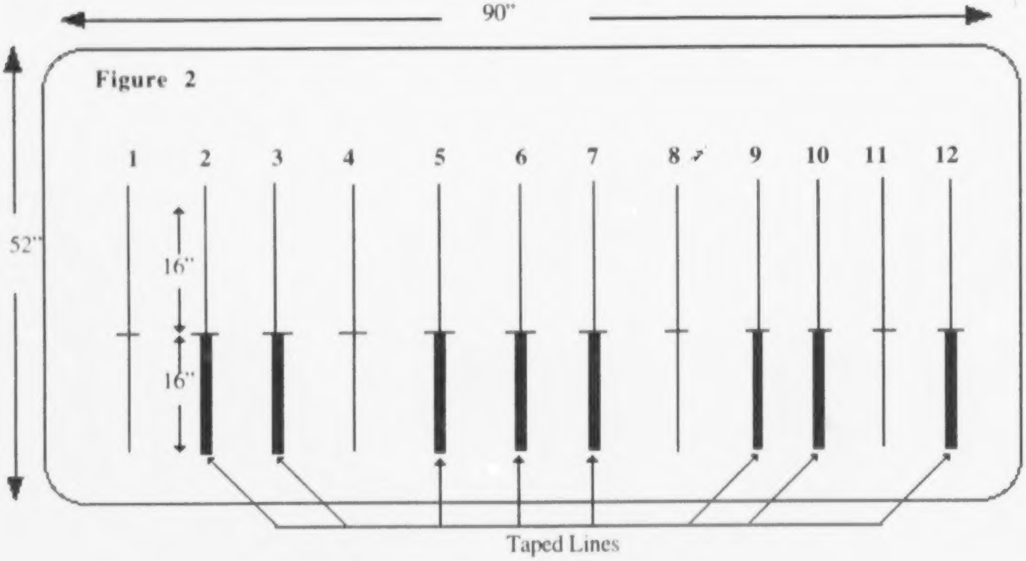
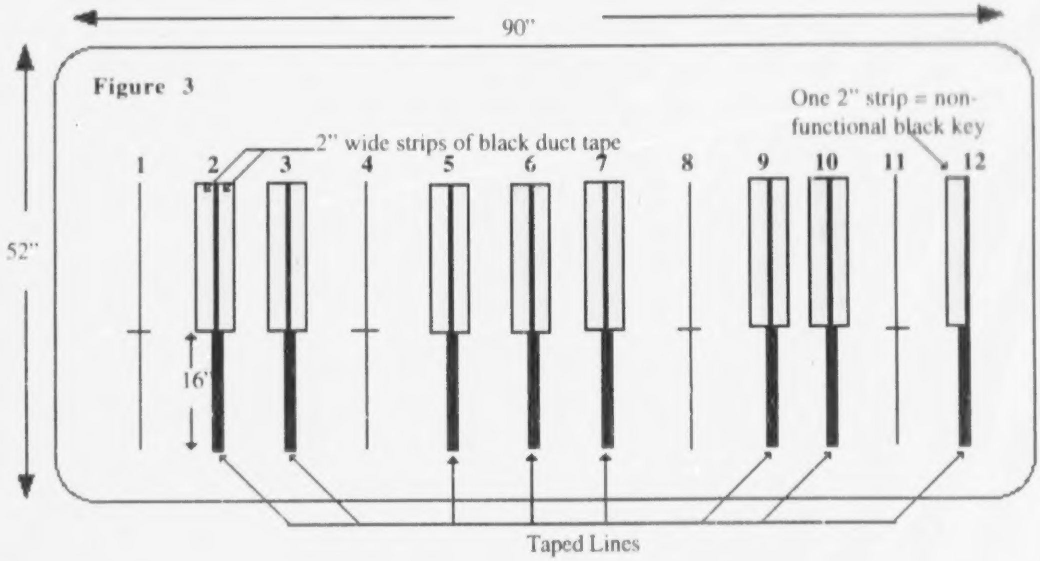


Figure 1
Draw marker lines on your tablecloth where dotted lines appear in this figure.
The numbers above the lines are for reference only. Do not label them on the tablecloth.

2. Measure and mark the vinyl side of the tablecloth, as shown in Figure 1.
3. Cut 8 strips of black duct tape, 1/2" wide and 16" long.


90"
Figure 2
1
2
3
4
5
6
7
8
9
10
11
12
52"
16"
16"
Taped Lines

4. Place a strip of the black tape over marker lines 2, 3, 5, 6, 7, 9, 10, and 12 (Figure 2).
5. Cut 15 strips of black duct tape 2" wide and 16" long.
6. Place one strip of tape on each side marker lines 2, 3, 5, 6, 7, 9, and 10 as shown in Figure 3. These represent the black piano keys. The last strip you place on the mat (#12) represents half of one black key and will be non-functional.


90"
Figure 3
One 2" strip = non-functional black key
2" wide strips of black duct tape
1
2
3
4
5
6
7
8
9
10
11
12
52"
16"
Taped Lines

7. Cut 4 pieces of black duct tape 1/2" wide and 32" long. Place these pieces on the 4 remaining marker lines (#1, 4, 8, and 11).
8. Place 1/2" wide pieces of black duct tape across the top and bottom of the keys to finish the keyboard, as shown in Figure 4.

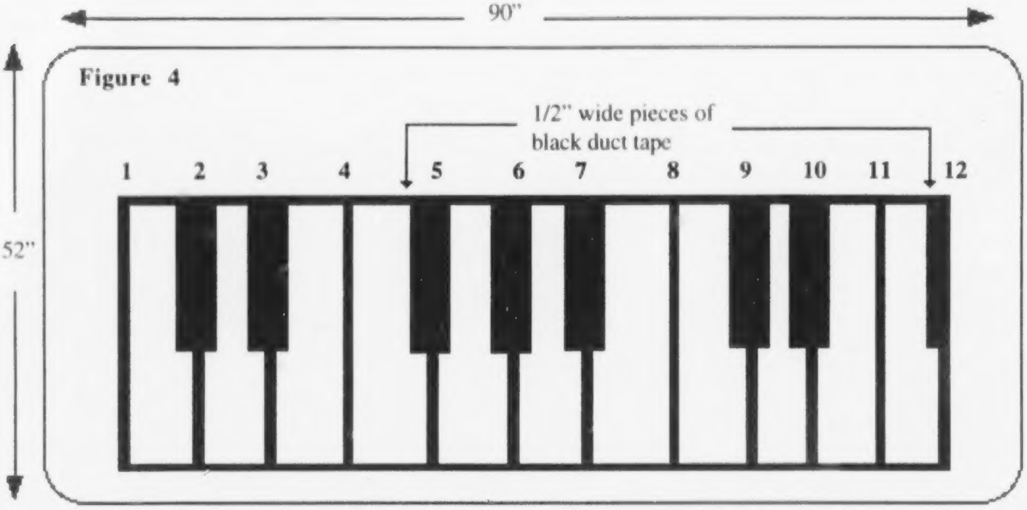


Figure 4

90"
52"
1/2" wide pieces of black duct tape
1
2
3
4
5
6
7
8
9
10
11
12

9. Cut two 9"x 9" squares from tag board or construction paper. Label on *Rhythm Stop*. Label the other *Rhythm Select*. Laminate these before mounting on mat.
10. Use Liquid Nails to glue these two pieces above the keyboard as shown in Figure 5.

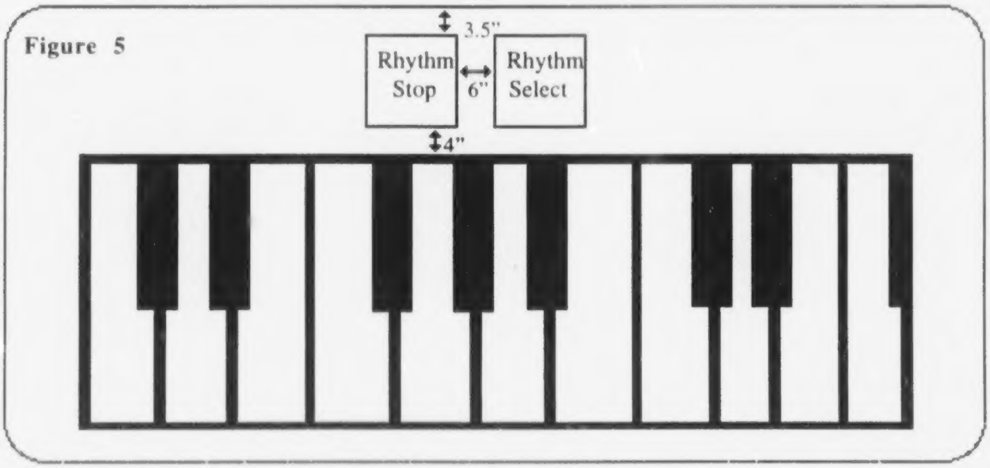


Figure 5

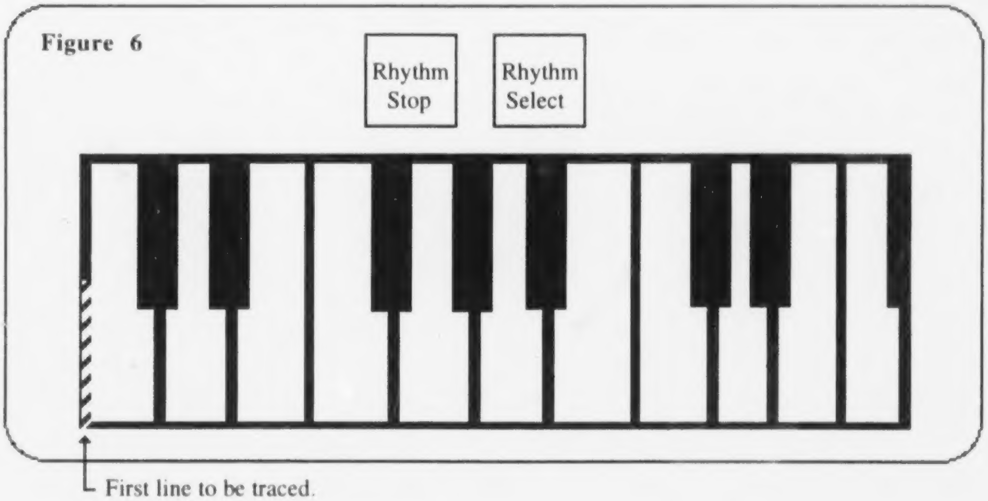
3.5"
Rhythm Stop
6"
Rhythm Select
4"

The front of the Music mat is now complete!

Marking the Mat for Switch Pockets

1. Using Dressmaker's tracing paper and a tracing wheel (or dull pizza cutter) you are going to mark the flannel side of the Music mat for use when attaching the pockets for the switches. The lines you trace will be guides for the Liquid Nails adhesive.
2. Leave the Music Mat *Vinyl Side Up* and place the Dressmaker's tracing paper (*Carbon Side Up*) under the Music mat where the first line is to be drawn.
3. Trace the line by rolling the tracing wheel on top of the Music mat, as shown in Figure 6.

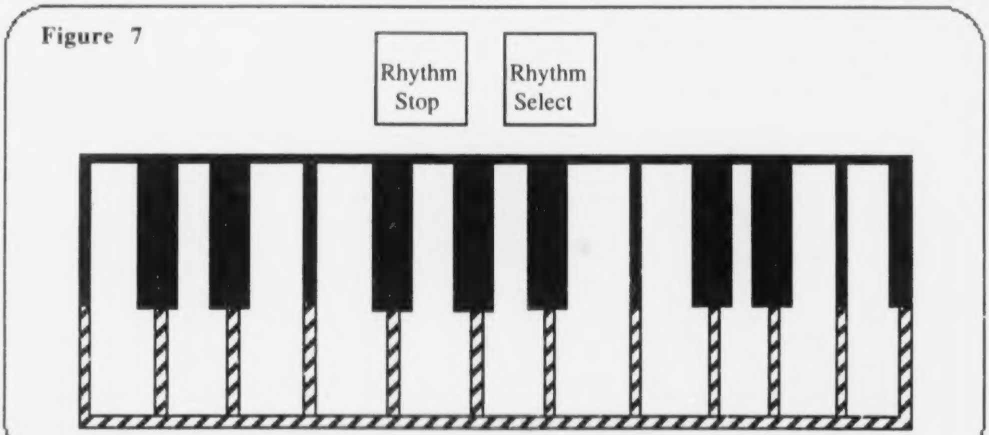
Figure 6



First line to be traced.
Trace only 16".

4. Continue by moving the carbon paper and tracing all lines for the white piano key pockets, as shown in Figure 7.

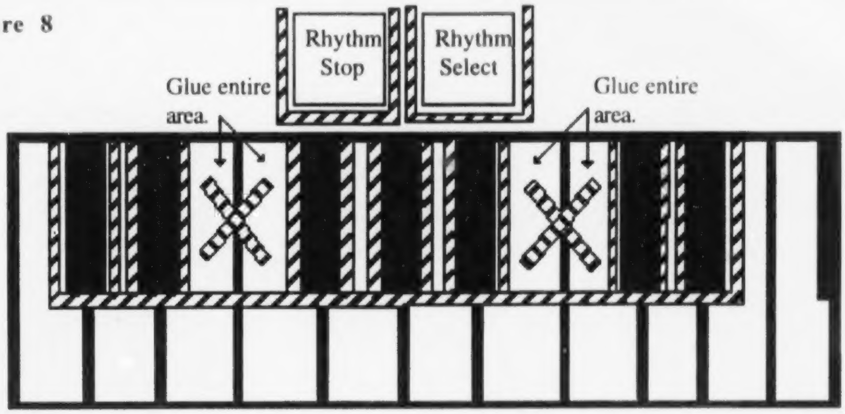
Figure 7



5. Next trace all lines for the black piano keys, and rhythm key pockets as shown in Figure 8.

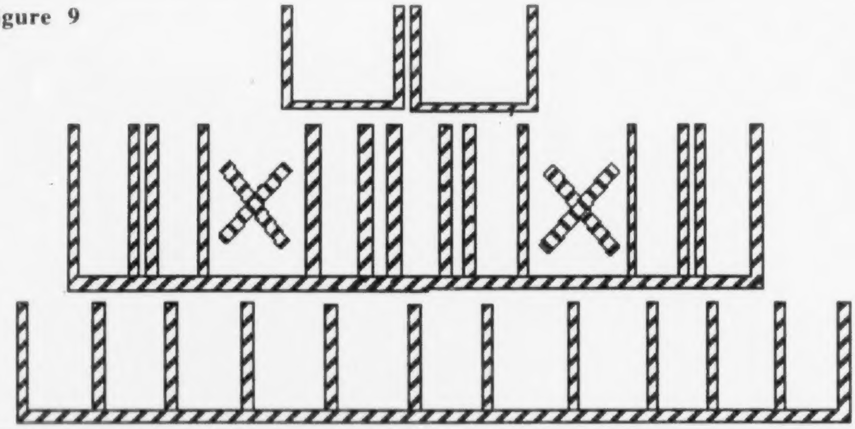
Trace the lines approximately 1" outside the sides and even with the bottom of each key.

Figure 8


Rhythm Stop
Rhythm Select
Glue entire area.
Glue entire area.

6. Turn the Music mat over so that the flannel side is facing up. The flannel side of the Music mat should look like Figure 9.

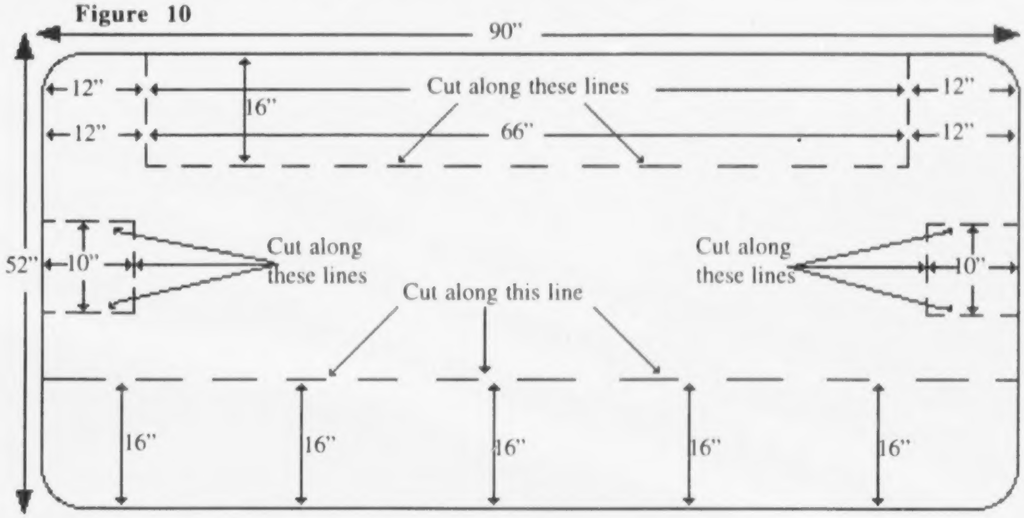
Figure 9



Cutting the Switch Pockets

1. Lay out the other tablecloth (to be used for the switch pockets), on a hard flat surface, *Vinyl Side Up*.
2. Measure and mark the vinyl side as shown in Figure 10.

Figure 10

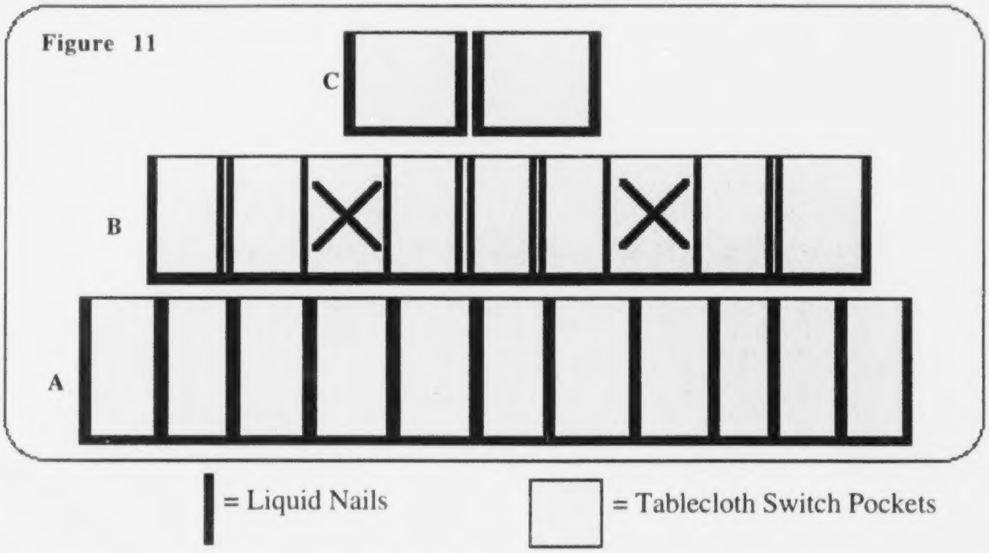

90"
12"
12"
16"
Cut along these lines
66"
12"
12"
52"
10"
Cut along these lines
Cut along this line
Cut along these lines
10"
16"
16"
16"
16"
16"

3. Cut the tablecloth along the dotted lines to make four pieces: one 16"x 90" piece, one 16"x 66" pieces, and two 10"x 10" pieces.

Attaching the Switch Pockets

1. Lay out the Music Mat tablecloth, *Felt Side Up*, on a hard, flat surface (Figure 9).
2. Begin with the bottom row. Use Liquid Nails to trace along the carbon paper lines. Carefully align the 16"x 90" tablecloth piece over the adhesive lines, *Placing the Felt Side Down*. (Figure 11-A) The felt sides of both tablecloths are on the inside. Press firmly along the adhesive lines to secure the pockets to the Music Mat.
3. Next, use Liquid Nails to trace the carbon paper lines on the middle row. Carefully align the 16"x 66" tablecloth piece over the adhesive lines, *Placing the Felt Side Down*. (Figure 11-B) The felt sides of both tablecloths are on the inside. Press firmly along the adhesive lines to secure the pockets to the Music Mat.
4. Finally, use Liquid Nails to trace the carbon paper lines on the top row. Carefully align the two 10"x 10" tablecloth pieces over the adhesive lines, *Placing the Felt Side Down*. (Figure 11-C) The felt sides of both tablecloths are on the inside. Press firmly along the adhesive lines to secure the pockets to the Music Mat.

Figure 11



The Front and Back Sides of the Music mat are Now Complete!
Leave the Mat in this Position for Several hours to Assure Secure Bonding.

Attaching Switches to Music Mat

1. Place the switches into the pockets as diagramed below. (Phone plug #1 goes into pocket #1)

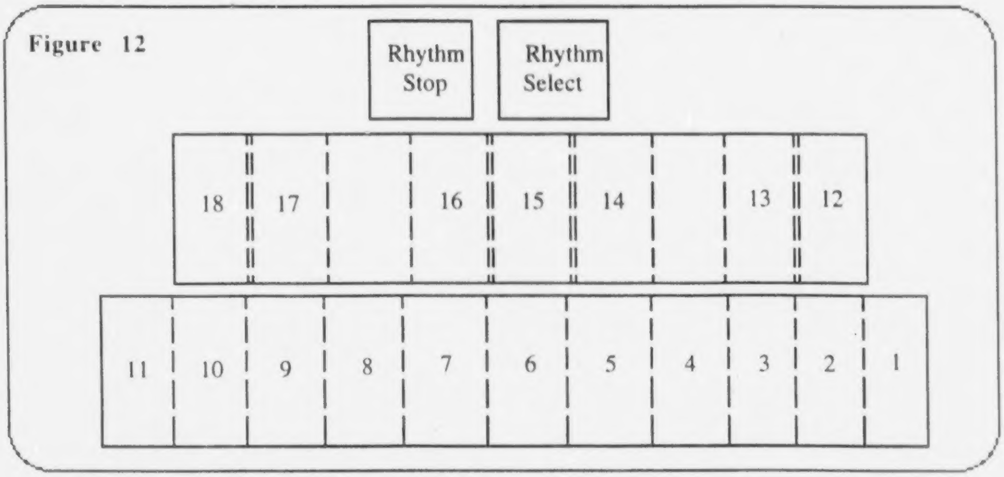


Figure 12

Rhythm Stop
Rhythm Select
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

☐ = Tablecloth Switch Pockets

2. When all switches have been placed in their pockets, bundle the speaker wire in groups, as outlined below (Figure 13):
   Switches #1, 2, 3, 4, 12, and 13
   Switches #5, 6, 7, 14, 15, and 16
   Switches #8, 9, 10, 11, 17, and 18
   Wrap small pieces of masking tape around the wires in each group.
3. Turn the Music Mat over so that the piano keyboard is facing up (Vinyl Side Up).

All plugs will attach here to Blanket Interface.

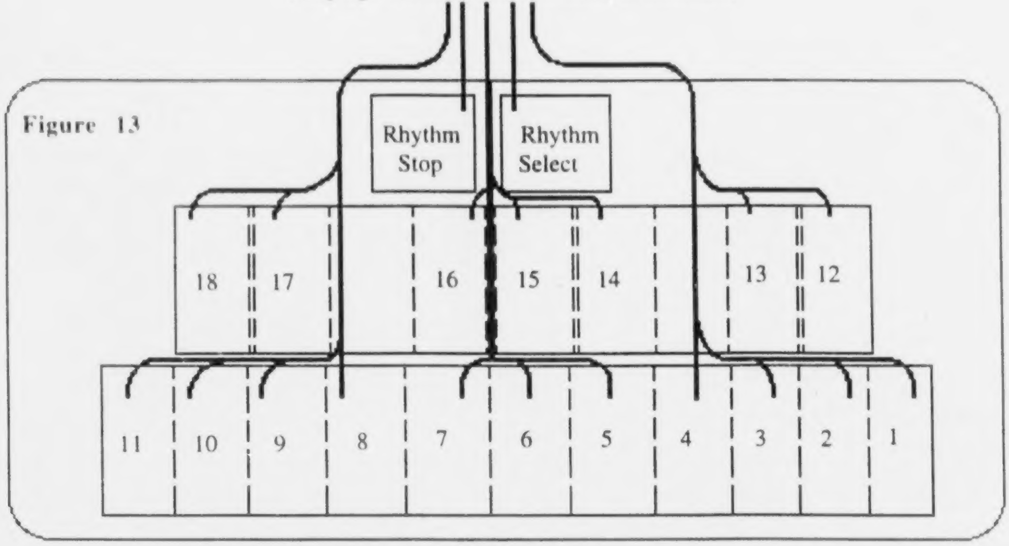


Figure 13

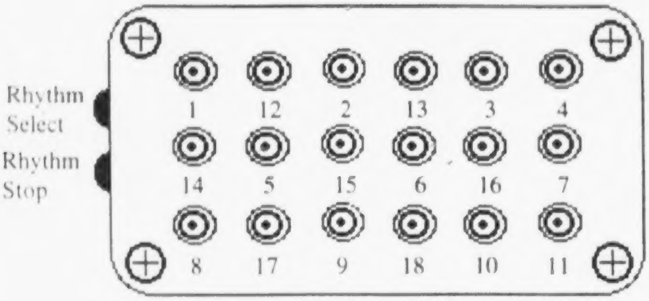
Rhythm Stop
Rhythm Select
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1

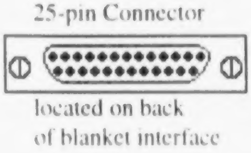
☐ = Tablecloth Switch Pockets

Attaching Music Mat to Adapted Organ

1. Plug the 20 switches in to their corresponding jacks on the Blanket Interface.
2. When all switches have been plugged in, attach the 25-pin connector on the back of the Blanket Interface in to the 25-pin connector on the back of the Adapted Organ.

Blanket Interface
Model 121





The music mat is now complete and ready for use.

Music Mat Construction Kit
Model 122

The Music Mat can be constructed using the materials and tools included in the Music Mat Construction Kit (Model 122), or from materials and tools purchased individually in local retail stores.

The **Music Mat Construction Kit** includes all of the tools and materials needed to make on Music Mat. All cardboard and aluminum foil pieces are **precut** to the proper size for all Music Mat switches. The Kit includes:

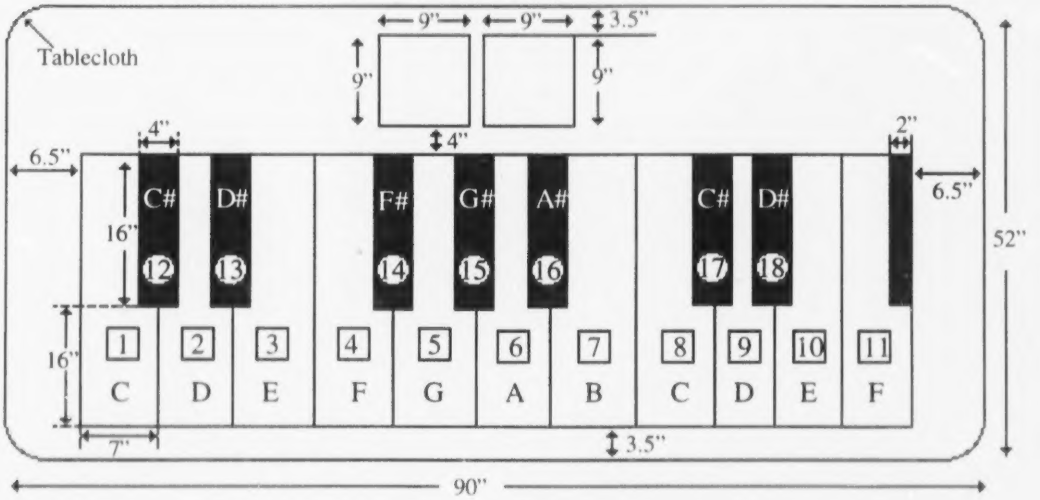
2 Flannel-backed Vinyl Tablecloths (90" x 52")
1 Roll Black Duct Tape
1 Tube Liquid Nails Adhesive
3 Rolls Double-sided Carpet Tape
1 Roll Masking Tape
1 Roll Electrical Tape
2 Feet 1/2" Thick Foam Rubber
20 Miniature Phone Plugs
22 Pieces Cardboard (15" x 6")
14 Pieces Cardboard (15" x 4")
100 Feet 2-Conductor 22-Gauge Stranded Speaker Wire
4 Pieces Cardboard (9" x 9")
22 Pieces Aluminum Foil (14 1/2" x 5 1/2")
14 Pieces Aluminum Foil (14 1/2" x 3 1/2")
4 Pieces Aluminum Foil (8 1/2" x 8 1/2")
1 Wire Stripper
1 Hot Glue Gun & Glue sticks
1 Soldering Iron & Rosin Core Solder
1 Eyelet Tool & Eyelets
1 Dressmaker's Tracing Wheel
1 Pkg. Dressmaker's Tracing Paper

Music Mat Construction Kit
Model 122
Available from:
Exceptional Computing
450 NW 58th Street
Gainesville, FL 32607
Phone: **904/331-8846 (Voice & Fax)**
Call for price information

The following materials/tools (and their approximate costs need to be purchased individually to construct one Music Mat (in lieu of the Music Mat Construction Kit):

2 Flannel-backed Vinyl Tablecloths (90" x 52")—$2.50 each
(1 for Music Mat, 1 for Switch Pockets)
20 Mini-Pone Plugs—$1.50/pkg. of 2
1 Roll Black Duct Tape (2" x 10 yd.)—$1.15/roll
1 Roll Electrical Tape—$.80/roll
3 Rolls 2-sided Carpet Tape—(1 1/2" x 42 ft.) —$2.00/roll
1 Roll Masking Tape—$.65/roll
19 Laminated File Folder (Legal Size) OR 40 Cardboard Pieces
13 Disposable Foil Oven Liners (18 1/4" x 15 3/4"—$2.00/pkg. of 2
1 Roll 22-gauge Speaker Wire (100 ft.)—$5.80/roll
20 Mini-Phone plugs—$1.50/pkg. of 2
2 Ft. Foam Rubber (1/2" x 24")—$1.00/ft.
Wire Stripper—$3.00
Glue Sticks (Pkg. of 60)—$3.00
Plastic Scraper—$.70
Dressmaker's Tracing Wheel—$1.00
Hot Glue Gun—$4.00
Soldering Iron/Rosin Core Solder—$7.00
Eyelet Tool—$3.00
Dressmaker's Tracing Paper—$1.15

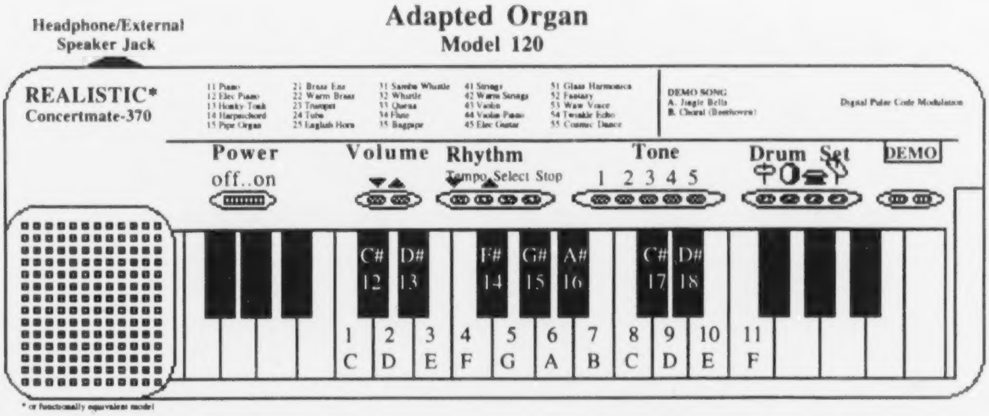
The Music Mat



Adapted Organ

(Model 120)

Operating Instructions


Adapted Organ
Model 120
Headphone/External Speaker Jack
REALISTIC*
Concertmate-370
11 Piano
12 Elec Piano
13 Honky-Tonk
14 Harpsichord
15 Pipe Organ
21 Brass Ens
22 Warm Brass
23 Trumpet
24 Tuba
25 English Horn
31 Samba Whistle
32 Whistle
33 Quena
34 Flute
35 Bagpipe
41 Strings
42 Warm Strings
43 Violin
44 Violin Piano
45 Elec Guitar
51 Glass Harmonica
52 Fantasy
53 Wah Voice
54 Twinkle Echo
55 Cosmic Dance
DEMO SONG
A. Jingle Bells
B. Choral (Beethoven)
Digital Pulse Code Modulation
Power
off..on
Volume
Rhythm
Tempo Select Stop
Tone
1 2 3 4 5
Drum Set
DEMO
C# 12
D# 13
F# 14
G# 15
A# 16
C# 17
D# 18
1 C
2 D
3 E
4 F
5 G
6 A
7 B
8 C
9 D
10 E
11 F
* or functionally equivalent model

Pre-Programmed Rhythm
(White Keys 1-11)

1—Disco 1
2—Disco 2
3—Disco 3
4—Pops 1
5—Pops 2
6—Pops 3
7—Slow Rock
8—Swing
9—March
10—Reggae
11—Tango

Pre-Programmed Accompaniment
(Black Keys 12-18)

12—Slow Rock
13—Latin
14—Jungle
15—Orient
16—Bagpipe
17—Fanfare
18—Child's Play

Description:
The Adapted Organ (Model 120) is a musical keyboard which has been specifically adapted for use with the Music Mat, or with individual switches. Anyone who can activate a switch can create and play music using the Adapted Organ. When used with the Music Mat, one or more people can create and play music by applying pressure to any of the twenty active areas on the mat (rolling over with a wheelchair, stepping, rolling, crawling). When used with individual switches, up to 18 people controlling one switch each, can work together to cooperatively make and play music.

The Adapted Organ can also be used as a standard musical keyboard, without switches. For more information on standard operation refer to the owner's manual included with the Adapted Organ.

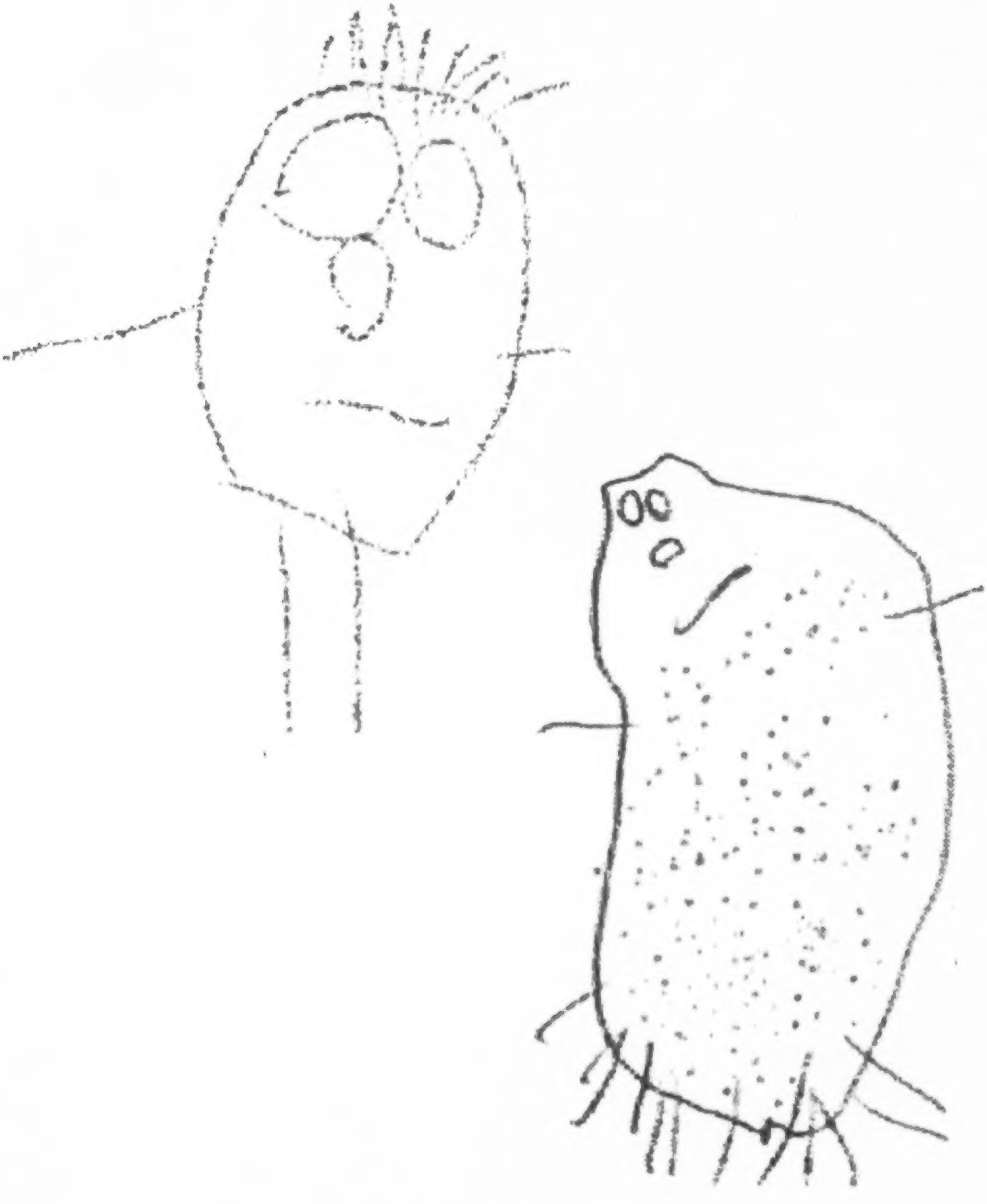
Features:

- 2-note polyphonic sound (two notes can be played simultaneously)
- 18 notes (musical tones) with switch access—11 White Keys, 7 Black Keys)
- 18 preprogrammed rhythms—11 with switch access
- 13 preprogrammed accompaniments—7 with switch access
- 25 preset sounds (i.e., piano, violin, trumpet)
- Tempo and Volume Controls
- 4-pad Drum Set buttons
- Headphone/External Speaker jack
- Powered by either battery (4 AA), or AC (option adapter must supply 6 or 7.5 volts and

deliver at least 150 milliamps output)

Operations (using the Music Mat or individual switches):

1. Insert 4 AA batteries, or attach AC adapter to Adapted Organ and plug adapter in to a power source.
2. Plug switches in to the Blanket Interface (Model 121), and connect the Blanket Interface to the back of the Adapted Organ. If you are using external speakers, connect them to the headphone/external speaker jack.
3. Set the power switch to the ON position.
4. Press any of the White or Black Key switches to hear a note (musical tone). When the Adapted Organ is turned on the Piano Tone (#11) is automatically selected. To select a different tone, use the blue *Tone* buttons on the Adapted Organ to enter the two-digit number for the desired tone (i.e., #34 = Flute). The list of preset tones appears on the top panel of the Adapted Organ.
5. Set the volume to the desired level using the red *Volume* buttons on the Adapted Organ.
6. To use a preprogrammed rhythm:
    a) Depress the *Rhythm Select* key on the Music Mat (or the appropriate individual switch). You will hear a click to verify the entry.
    b) Depress any of the White Keys on the Music Mat (or a White Key switch) to begin the rhythm. Once the rhythm begins all White and Black Keys return to their musical tones when pressed, while the rhythm continues in the background.
    c) To adjust the tempo (speed) of the rhythm use the yellow *Tempo* buttons on the Adapted Organ.
    d) To select a new rhythm, depress the *Rhythm Select* key , then depress a different White Key.
    e) To stop the rhythm, depress the *Rhythm Select* key.
7. To use a preprogrammed accompaniment:
    a) Depress the *Rhythm Select* key on the Music Mat (or the appropriate individual switch). You will hear a click to very the entry.
    b) Depress any of the Black Keys on the Music Mat (or a Black Key switch) to begin the accompaniment. Once the accompaniment, begins all White and Black Keys return to their musical tones when pressed, while the accompaniment continues in the background.
    c) To adjust the tempo of the accompaniment use the yellow *Tempo* buttons on the Adapted Organ.
    d) To select a new accompaniment, depress the *Rhythm Select* key, then depress a different Black Key.
    e) To stop the accompaniment, depress the *Rhythm Stop* key.
8. The four drum set buttons play four different percussion sounds. These cannot be activated by a switch, but can be played by pressing the green *Drum Set* buttons on the Adapted Organ.



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